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THE APACHEAN VERB, PART I: VERB STRUCTURE AND PRONOMINAL PREFIXES

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I. INTRODUCTION

In this paper, the first of a series on the Apachean verb, my purpose is twofold: to describe the essential structure of the verb in the Apachean languages, and to list comparatively the pronominal prefixes employed in such verb forms. Subsequent articles will be devoted to similar comparative studies of tense-modal prefixes and classifiers, verb stems, and adverbial prefixes.

The field data upon which these papers are based was collected by the late Professor Sapir and myself. Sapir collected the bulk of the Navaho data; all of that material, together with his partial analysis of it, has been turned over to me. Data on the other Apachean languages—San Carlos, Chiricahua, Mescalero, Jicarilla, Lipan, and Kiowa-Apache—is my own.

The Apachean languages form one substock of the larger Athapaskan family. They may be divided into two principal groups: Western Apachean (Navaho, San Carlos, Chiricahua, and Mescalero) and Eastern Apachean (Jicarilla, Lipan, and Kiowa-Apache). Within Western Apachean, Navaho, San Carlos, and Chiricahua-Mescalero are three mutually unintelligible dialect groups; the same is true of Jicarilla, Lipan, and Kiowa-Apache within Eastern Apachean. The details of this classification have been published elsewhere.[1]

The phonetic symbols employed in this paper are the same as those I have used in other publications.[2] Navaho phonemics and morphophonemics are described in some detail in my Navaho Phonology;[3] similarly detailed descriptions for the other Apachean languages are not yet available.

II. VERB STRUCTURE

1. There are, in the Apachean languages, three major form classes: particles, nouns, and verbs. Particles may be monosyllabic, disyllabic, or, rarely, polysyllabic, and are never inflected. Nouns are composed of a stem alone, a stem plus a prefix, a verb form (with or without a relative suffix) interpreted as a noun, or of some combination of two or more of these.[4] All nouns, regardless

[1] H. Hoijer, The Southern Athapaskan Languages, AA 40.75–87 (1938).

[2] All the symbols here employed have been described in my Chiricahua and Mescalero Apache Texts (University of Chicago Press, 1938) or in Navaho Phonology, University of New Mexico Publications in Anthropology, No. 1, 1945.

[3] Citation given in fn. 2.

[4] Some discussion of these for Chiricahua-Mescalero is in my Chiricahua and Mescalero Apache Texts, pp. 73–4. The principal types described there are paralleled in the other Apachean languages.

of their structure, may occur with a possessive prefix, and the stems of some nouns undergo phonetic modification in the possessed form. Otherwise the noun is not inflected. Semi-independent enclitics and proclitics may frequently be added to both particles and nouns.

2. Verbs are considerably more complex structurally. Proceeding in accordance with the principle of immediate constituents, we may divide a verb construction (i.e. any actual free verb form) into a verbal base, which symbolizes the lexical meaning of the construction, and one or more paradigmatic prefixes, which define the construction in respect to person (subject, object, and indirect object), number, mode, tense, and voice. This division, however, is only rarely a simple dichotomy as, for example, in the Navaho construction nì-bé·ž *you boil*, where nì-, second person subject, is a paradigmatic prefix and -bé·ž *to boil* represents the base. More often the two portions of the construction are each polysyllabic and interlocking. Thus, in bà·nádìšdá·h *I start again and again to come to him*, the paradigmatic prefixes b-, from bi- *him*, ná-, iterative mode, š- *I*, and d-, classifier, interlock with the base à·- . . . di- . . . -há·h *one person starts to come to someone*.[5]

It is evident, then, that each verbal element has a definite assigned position in the construction. The verbal construction has fourteen possible positions, though not all of these may be occupied in any single example. Positions 1, 5–8, and 10–13 are exclusive to paradigmatic prefixes, while positions 2–4, 9, and 14 are held by elements belonging to the verbal base.

3. The verbal base may also be divided into two major parts: the verb theme and the adverbial prefix complex. In some constructions the base may be identical with the theme; i.e., the base need not include adverbial prefixes. In others there may be one or more adverbial prefixes. Elements belonging to the verb theme are restricted to positions 4 and 14, those of the adverbial prefix complex to positions 2, 3, and 9.

Adverbial prefix complexes may consist of one or more prefixes. Position 2 is restricted to postpositions, a special kind of adverbial prefix similar in function to English prepositions. Usually only one of these is included in a given prefix complex. When present, the postposition is always preceded by a pronoun prefix (paradigmatic) symbolizing the indirect object of the verb.

Most adverbial prefixes occur in position 2. There may, indeed, be several prefixes (though rarely more than three) in this position. Relatively few adverbial prefixes are found in position 9. Sometimes a prefix complex may include one or more prefixes in position 3 and another in position 9.

We cannot list here all the adverbial prefix complexes; a complete list, for any of the languages, runs into the hundreds. The following Navaho examples are merely to illustrate their variety, both in form and meaning: à·- (position 2) (*motion*) *to or from*; à·-ná-(positions 2, 3) *to* (*move*) *back from, to* (*move*) *away from*; à·-ná-di- (positions 2,3,9) *to begin to* (*move*) *away from*; nà- (position 3) *here and there*; nà·-ná- (position 3) *in a circle back to the starting point*; nì-kí-ná-ná·- (position 3) *back to the starting place again*; ná-di- (positions 3, 9) *motion upward*; nì-kí-di (nì-kí- in position 3, di- in position 9) *falling down* (*so as to strike the ground*); di- (position 9) *to begin to*.

Adverbial prefix complexes vary widely in the freedom with which they may be used. A great many are restricted to one, two, three, or four themes, but others may be used with almost any theme.

4. The verb theme consists of a thematic prefix (often zero) which occupies position

[5] Morphemes written without tone mark are neutral in tone. See my Pitch Accent in the Apachean Languages, Lg. 19.38–41 (1943).

4 and a stem or set of stems. Only one stem is found in any given construction, however, and it always occupies position 14. Thematic prefixes are indistinguishable from adverbial prefixes in phonetic form; they differ from them only in the fact that they are always found with a given stem or set of stems.

Few themes have but one stem form; in most of them, there are from two to four stem forms and, in some, there may be as many as seven or eight. In general, the stem forms belonging to a theme appear to be phonetic alternants, though the morphophonemic processes underlying stem alternation are highly irregular.[6] Each stem of a given theme functions in one or more of the paradigms in which the verbal bases formed from that theme may be conjugated. Thus, in the verb theme ní- . . . -ʔàh *to butcher* (identical with the base), the stem -ʔàh appears in every conjugation, but in the theme yá- . . . -tíʔ, -tĩh *talk, a conversation goes on* (also identical with the base), the -tíʔ is found in the imperfective, perfective, and optative paradigms, and the stem -tĩh in the progressive and iterative paradigms. A still more complex stem variation is found in the theme . . . -ʔà·h, -ʔá, -ʔą́, -ʔá·ɬ, -ʔà·ɬ, -ʔá·h, -ʔàʔ, referring to the movement of a round solid object (there is no thematic prefix). Here -ʔà·h is used in momentaneous imperfective and continuative iterative paradigms, -ʔá in the continuative imperfective, -ʔą́ in the momentaneous and continuative perfective, -ʔá·ɬ in the momentaneous progressive and momentaneous optative, -ʔà·ɬ in the continuative progressive, -ʔá·h in the momentaneous iterative, and -ʔàʔ in the continuative optative. It is clear, then, that the stems of a theme are varied for aspect and mode, though the variation is of a highly irregular nature.[7]

[6] For examples and a discussion of stem alternation in Navaho, see Navaho Phonology, pp. 32–38.

[7] The tense-modes and aspects of the Apachean verb are to be defined in some detail in a later paper.

There are of course hundreds of verb themes in the Apachean languages. Like the adverbial prefix complexes, some verb themes may occur in only two or three verbal bases, while others may be found with a much greater number. The theme referring to the movement of a round solid object, for example, occurs in a great number of verbal bases, some of which are as follows:[8] ì·h-ni- (*into*) . . . *to put one's head into*; dá-di- (*in front of, before*) . . . *to put a round solid object at the entrance, to put in a stopper*; dàh- (*on top*) . . . *to put a round solid object on top*; tá-di- (*from place to place*) . . . *to carry a round solid object from place to place*; nà- (*here and there*) . . . *to carry a round solid object here and there*; nì- (*down*) . . . *to put a round solid object down*; ná-di- (*motion upward*) . . . *to take a round solid object out of an enclosed space*; ɣà- (*from*) . . . *to take a round solid object from* [*someone*]; ʔé- (*outside*) . . . *to take a round solid object outside*.

5. Paradigmatic prefixes, as we have said, are found in positions 1, 5–8, and 10–13. There are several classes of paradigmatic prefix as follows:

A. Pronominal prefixes.

1. The prefixes functioning as direct or indirect objects. These are identical in phonetic form but the indirect object appears in position 1 and is always followed by a postposition, while the direct object is found in position 7.

2. Deictic prefixes functioning as subject of the verb always occur in position 8. When these are present, there is of course no prefix in position 12 (see below).

3. Subject pronoun prefixes appear in position 12.

[8] Only the prefix complex is listed. The meaning in parentheses is that of the prefix complex and the gloss following that of the prefix complex plus the theme referring to the movement of a round solid object.

B. Number prefixes.

There are two number prefixes, one defining the dual or plural and the other distributive plural. Both modify either the subject or the object pronoun depending upon context. The dual or plural prefix is used only with pronoun prefixes for the several third persons. The distributive plural may be combined with the first and second persons dual and with the several third person prefixes. Both number prefixes occupy position 6.

C. Tense prefix.

In this category there is but one prefix, that defining the future tense. It appears in position 10 and is always followed by and fused with the prefix for the progressive mode.[9] It never occurs in the same construction with other modal prefixes.

position 11. Every verb construction must include one, but only one, modal prefix. In some forms of the imperfective and usitative paradigms, however, the modal prefix may be zero.

E. Classifiers.

These are prefixes standing directly before the stem in position 13. There are four of them: zero, ɬ-, d-, and l-. The classifier d-, however, never appears as such; its presence may only be noted by certain other grammatical variations or by a change in the initial stem consonant. The same is true, in some of the Apachean languages, of the classifier l-, which in these languages has fallen together with ɬ-. The grammatical function of the classifier is far from certain. In some cases, however, ɬ- appears to act as a causative and d- and l- as passive or mediopassive indicators.

The Verb Construction

Position	The Verbal Base		Paradigmatic Prefixes
	The Theme	The Adverbial Prefixes	
1			Indirect object
2		Postposition	
3		Adverbial prefixes	
4	Theme prefix		
5			Iterative mode
6			Number prefix
7			Direct object
8			Deictic prefix
9		Adverbial prefix	
10			Tense prefix
11			Modal prefix
12			Subject pronoun
13			Classifier
14	Stem		

D. Modal prefixes.

The prefix for the iterative mode has position 5; all other modal prefixes occupy

[9] In a few rare cases, prefixes of uncertain meaning and classification may be inserted between the future tense prefix and that for the progressive.

6. We may, then, summarize Apachean verb structure as follows:

Among the paradigmatic prefixes, elements in positions 5 and 11, 8 and 12, and those of any single position are mutually exclusive.

A minimum theme consists of a single invariable stem; a minimum base is one equivalent to a theme. A construction without any paradigmatic prefixes must be a third person intransitive of the imperfective or usitative paradigm; all other forms of the construction must include at least one paradigmatic prefix not a zero.

More complex verb constructions are sometimes found. An adverbial prefix may occasionally be added before position 1, the construction may have two post-positions each preceded by a pronoun, or the entire construction may be preceded by a proclitic or followed by an enclitic. The scheme above, however, is adequate for the great majority of verb forms.

III. PRONOMINAL PREFIXES

7. The object pronoun prefixes are essentially the same in form and meaning in all the Apachean languages; they may be listed as follows.[10]

	Sg. 1	Sg. 2	Sg. 3	Sg. 3a	Sg. 4	Indefinite	Time—place	Du. 1 or 2	Reciprocal	Reflexive
Nav.	ši-	ni-	bi-	yi-	ha- ho-	ʔa-	ha- ho-	nihi-	ʔàhi ʔàł-	ʔádi-
S. C.	ši-	ni-	bi-	yi-	ko-	ʔi-	go-	nòh"i-	ʔił-	ʔádi-
Chir.	ši-	ni-	bi-	yi-	go-	ʔi-	go-	nàhi-	ʔił-	ʔádi-
Mesc.	ši-	ni-	bi-	yi-	go-	ʔi-	go-	nàhi-	ʔił-	ʔádi-
Jic.	ši-	ni-	bi-	yi-	go-	ʔi-	go-	nàhi-	ʔił-	ʔádi-
Lip.	ši-	ni-	bi-	yi-	ki-	ʔi-	go-	nàhi-	ʔił-	ʔádi-
K. A.	ši-	di-	bi-	yi-	go-	ʔi-	go-	nàhi-	ʔił-	ʔádi-

The pronominal prefixes may occur in either position 1 or position 7. In position 1 they are always followed by a postposition and function therefore as indirect objects of the verb. In position 7 they stand for the direct objects of transitive verbs. Examples (from Navaho): šà·ǯò·bàʔ *he is kind to me* (šà·- < ši- + the postposition à·- *to*), nà·ǯò·bàʔ *he is kind to you* (nà·- < ni- + à·-), šiłbé·ž *he boils me* (ł-, classifier; -bé·ž *to boil*, trans.), niłbé·ž *he boils you.*

The pronoun bi- is used in position 1 when the subject of the verb is other than third person. It is only rarely found in position 7; when the subject of a transitive verb is other than third person, the third person object is usually signified by zero. yi- is used for the third person object (in both positions) only when the subject of the verb is also third person. Examples from Navaho: bíłhàǯí·bà·ʔ *he has started out to war in company with him*, (bi- *him*, ł- *in company with*; the subject of this verb is fourth person), yiłhá·bà·ʔ *he* (third person) *has started out to war in company with him*, niłbé·ž *you boil him* (ni-, second person subject), yiłbé·ž *he boils him* (yi-, third person object, used because subject [zero] is third person), bì-ǹšdà·h *I seat him*, bi-ńłdà·h *you seat him*, yi-ǹłdà·h *he seats him*, bi-jǹłdà·h *he* (fourth person) *seats him.*

The fourth person pronoun is an alternate third person form. It may be used simply to differentiate two third person referents as, for example, in the following Chiricahua text forms: bà·nášǹʔą *he* (fourth person) *took a round object* (viz. a piece of meat) *from him* (third person) (bà·- < bi- + à·- *from*), kà·náyìǹʔą *he* (third person) *took a round object* (viz. the same piece of meat) *from him* (fourth person) (kà·- < go- + à·- *from*).[11] In general, however, the fourth person is used of persons or beings psychologically remote from the speaker

[10] The following abbreviations are used: Nav. = Navaho, S. C. = San Carlos, Chir. = Chiricahua, Mesc. = Mescalero, Jic. = Jicarilla, Lip. = Lipan, K. A. = Kiowa Apache, Sg. = singular, Du. = dual-plural.

[11] Chiricahua and Mescalero Apache Texts, p. 7.

such as, for example, an in-law or a sibling of the opposite sex with whom a respect or partial avoidance relationship must be maintained. In this usage the difference between the Apachean third and fourth person is roughly similar to that between tu and vous of the French second person.

The fourth person object pronoun, like the others, occurs in both positions. In Chiricahua and Mescalero, however, it takes the form k- when followed by a vocalic postposition. Examples: Navaho ǹhòńɬtè·h *you put him* (fourth person) *down*, hà·ńɬtè·h *you give him* (third person) *to him* (fourth person); San Carlos ǹkòńɬtè·h *you put him* (fourth person) *down*, kà·ńɬtè·h *you give him* (third person) *to him* (fourth person); Chiricahua, Mescalero ǹgòńɬtè· *you put him* (fourth person) *down*, kà·ńɬtè· *you give him* (third person) *to him* (fourth person); Jicarilla ǹgòńɬkè· *you put him* (fourth person) *down*, gà·ńɬkè· *you give him* (third person) *to him* (fourth person); Lipan ǹkǐńɬkǐ· *you put him* (fourth person) *down*, kà·ńɬkǐ· *you give him* (third person) *to him* (fourth person); Kiowa-Apache ǹgòńɬčè·š *you put him* (fourth person) *down*, gà·ńɬčè·š *you give him* (third person) *to him* (fourth person).

The indefinite third person pronoun is employed when it is not necessary or possible to make reference to a specified individual or thing. It may best be translated *someone, something*. Examples from Navaho; ʔà·ǹšʔà·h *I give a round object to someone* (ʔà·- < ʔa- + à·- *to*), ʔàɬbé·ž *he boils something, he boils things*.

When the reference is to a time, place, or ritual, the time-place pronoun is used: Navaho hàsʔą́ *he has* (*the ceremony*) *going on, he has* (*a place, time*) *set*; náhòsélʔą́ *I have the place, time set for you* (ná- < ni- + á- *for*; ho-, place-time pronoun).

Third and fourth person pronouns, as well as the indefinite and place-time pronouns, are either singular, dual, or plural, the precise number being determined by context. Except in Navaho and San Carlos, however, there is found a dual-plural prefix which is used to form an explicitly dual-plural third and fourth person (see §10).

First and second person dual are not differentiated in any of the Apachean languages; the precise meaning of Navaho nìhi-, San Carlos nòhʷi-, and Chiricahua, Mescalero, Jicarilla, Lipan, Kiowa-Apache nàhi- is determined by context. These forms may also be interpreted as simple (in contrast to distributive) plurals. Examples from Navaho: nìhà·ǹšʔà·h *I give a round object to you* (dual or plural) (nìhà·- < nìhi- + à·- *to*), nìhà·ńʔà·h *you give a round object to us* (dual or plural), nìhìšbé·ž *I boil you* (dual or plural), nìhíɬbé·ž *you boil us* (dual or plural).

Navaho has two reciprocal pronouns, ʔàhi- and ʔàɬ-. The latter is usually found in position 1, followed by a postposition; the former is characteristic of position 7. ʔàhi- has been lost in the other languages (it should occur as *ʔìhi-), ʔìɬ- being found in both positions. Examples: Navaho ʔàhì·ɬté·ɬ *we are carrying each other* but ʔàɬɣànì·tą́ *we take a round object away from each other*; Chiricahua ʔìɬn·ɬtó *we shoot each other* and ʔìldénánážó·ʔą́ *they passed a round object back and fourth to each other*.

The reflexive pronoun has its full form ʔádi- in position 7, the form ʔád- in position 1 when the following postposition begins with a vowel, and the form ʔá- in position 1 when the following postposition begins with a consonant. Examples from Navaho: ʔádìldé·h *he cleans himself*, ʔádáʔàdìšgą́ *I kill things* (e.g. lice) *on myself* (ʔád- + á- *for, on*), ʔátìsdìšʔà·h *I pass the round object over my head* (ʔá- + tis- *over, above*).

8. The subject pronoun of the Apachean verb may be indicated by one of three deictic prefixes occupying position 8 or by one of the several subject pronoun prefixes found in position 12. The deictic prefixes define the fourth person, the indefinite subject, and the place-time subject. Prefixes of position 12 define the first person singular, the second person singular, the first person dual

or plural, and the second person dual or plural. A third person subject is indicated by the absence of both deictic prefix and subject pronoun prefix.

(a) š-, first person singular in all paradigms except those which employ (b) below. The prefix is the same in all the Apachean languages. Navaho dì-š-bá·h *I start off to war*; San Carlos, Jicarilla dì-š-báh; Chiricahua, Mescalero, Lipan dì-š-bá; Kiowa-Apache dì-š-má·s.

(b) Navaho é- (rarely í-); San Carlos í·-; Chiricahua, Mescalero, Lipan í-; Jicarilla é-; Kiowa-Apache é·-, first person singular in the perfective paradigms of zero and ɬ class verbs. Navaho sébé·ž (< si-é- bé·ž) *I have boiled*, San Carlos sí·bé·ž (< si-í·-bé·ž), Chiricahua síbé·ž (< si-í-bé·ž), Mescalero síbé·ʒ (< si-í-bé·ʒ), Lipan síbíš (< si-í-bíš), Jicarilla sébéš (< si-é-béš), Kiowa-Apache sé·bé·š (< si-é·-bé·š).

(c) nì- or ǹ- (ⁿdì- in Kiowa-Apache), second person singular in h- imperfective paradigms. Navaho, San Carlos, Chiricahua nì-bé·ž or ǹ-bé·ž *you boil*, Mescalero nì-bé·ʒ or ǹ-bé·ʒ, Jicarilla nì-béš or ǹ-béš, Lipan nì-bíš or ǹ-bíš, Kiowa-Apache ⁿdì-bé·š.

(d) Navaho ʹní- or ʹń-, San Carlos, Chiricahua, Mescalero, Jicarilla ʹǹ-, Lipan ʹnì- or ʹǹ-, Kiowa-Apache ʹⁿdí-, second person singular in all perfective paradigms. Navaho síńɬbé·ž (< si- ʹń-ɬ-bé·ž) *you have boiled it*, San Carlos, Chiricahua síǹɬbé·ž (< si- ʹǹ-ɬ-bé·ž), Mescalero síǹɬbé·ʒ (< si- ʹǹ-ɬ-bé·ʒ), Jicarilla síǹɬbéš (< si- ʹǹ-ɬ-béš), Lipan sínìbíš (< si- ʹnìbíš) *you have boiled*, Kiowa-Apache síⁿdíbé·š (< si- ʹⁿdí-bé·š) *you have boiled*.

(e) In all other paradigms Navaho and Chiricahua indicate the second person singular by adding a high tone to the vowel of the preceding prefix. In Mescalero, Jicarilla, and Lipan the vowel of the preceding prefix is nasalized as well, and in San Carlos and Kiowa-Apache it is nasalized, lengthened, and given a high tone. Navaho, Chiricahua šɬbé·ž (< ši- ʹ-ɬ-bé·ž) *you boil me*, Mescalero šɬbé·ʒ, Jicarilla šɬbéš, Lipan šɬbíš, San Carlos šɬ·ɬbé·ž, Kiowa-Apache šɬ·ɬbé·ž.

There is some reason to believe that this method of symbolizing the second person singular pronoun is an alternant of that described in (c) above. In many cases of fusion between a morpheme of the type cv and a following ni- morpheme, the latter disappears, leaving a high tone (in Navaho and Chiricahua), a high tone and nasalization (in Mescalero, Lipan, and Jicarilla), or a high tone, nasilization, and length (in San Carlos and Kiowa-Apache) on the vowel of the preceding cv morpheme. Compare, for example, Navaho bà·ǹšʔà·h (< bi-à·-ni-š-ʔà·h) *I give a round object to him* with yà·yíʔà·h (< yi-à·-yi-ni-ʔà·h) *he gives a round object to him* (San Carlos bà·ǹšʔà·h, yà·yɪ́·ʔà·h; Chiricahua bàǹšʔà·, yà·yíʔà·; Mescalero bàǹšʔà·, yà·yɪ́ʔà·; Jicarilla bàǹšʔài, yà·yɪ́ʔài; Lipan bà·ǹšʔà·, yà·yɪ́ʔà·; Kiowa-Apache bà·ǹšʔà·š, yà·yɪ́·ʔà·š).

It would appear, from the cursory examination so far made of this problem, that the nì- (ⁿdì-) second person singular prefix occurs initially, and medially when the preceding prefix is an adverbial of position 3, but that when the preceding prefix is paradigmatic or an adverbial of position 9, the nì- disappears, leaving its traces on the vowel of the preceding prefix.

(f) Navho ì·(d)-, San Carlos ɪ̀·(d)-, Chiricahua ì· (d)-, ì·h-, Mescalero, Jicarilla, Lipan, Kiowa-Apache ɪ̀·(d)-, ɪ̀·h-, first person dual or plural in all paradigms.

The first person dual or plural never begins a form; it always follows either an adverbial or another paradigmatic prefix. Its vowel is always absorbed to the vowel of the preceding prefix though, where ì· is nasalized, the vowel of the preceding prefix takes over this nasalization. Except in Navaho and Lipan a vocalic n preceding the first person dual or plural prefix will become ǹ·-, not nì·-.

The final d of the first person dual or plural prefix is never actualized as such. Its presence may be inferred, however, from

the effect which it exerts upon certain consonants following (it is never followed by a vowel). These effects may be summarized as follows.

	Navaho	San Carlos	Chiricahua Mescalero Jicarilla Lipan	Kiowa Apache
d plus classifier ɬ >	ɬ	ɬ	ɬ	ɬ
d plus stem initial ʔ >	t̬	t̬	t̬	t̬
d plus stem initial m >	ṁ	ṁ	—	—
d before stem initial m >	—	—	h	h
d plus stem initial n >	ṅ	ṅ	—	—
d before stem initial n >	—	—	h	h
d plus stem initial y >	d or ʒ	d or ʒ	d or ʒ	—
d plus stem initial ɣ >	g	d	g	g
d plus stem initial z >	ʒ	ʒ	ʒ	ʒ
d plus stem initial ž >	ǯ	ǯ	ǯ	ǯ or d
d plus stem initial l >	ƛ	ƛ	ƛ	ƛ
d before other consonants >	zero	zero	zero	zero

Navaho: yi·bé·ž (<yi-i·d-bé·ž) *we two boil*, yi·lbé·ž (< yi-i·d-ɬ-bé·ž) *we two boil it*, bà·ni·t̬à·h (< bà·-ni-i·d-ʔà·h) *we two give a round object to him*, di·ṁà·s (< di-i·d-mà·s) *we two begin to roll (down)*, ni·ṅé (< ni-i·d-né) *we die off*, yi·dą́ (< yi-i·d-yą́) *we two eat it*, hòni·ʒą́ (< ho-ni-i·d-yą́) *we two are wise*, yi·gą́ (< yi-i·d-ɣą́) *we two kill them*, hʷi·ʒé·s (< ho-i·d-zé·s) *we two singe it (a place)*, yíni·ǯí (< yí-ni-i·d-ží) *we two call by name*, ʔi·ƛìž (< ʔa-i·d-lìž) *we two urinate*.

San Carlos: nà·nihį·déh (< nà·-ni-hi-į·d-déh) *we fall off*, bìn·ldà· (< bi-ni-į·d-ɬ-dà·) *we two seat him*, hį·t̬à·ɬ (< hi-į·d-ʔà·ɬ) *we two chew it*, nà·hį·ṁà·s (< nà·hi-į·d-mà·s) *we two whirl around*, nádihį·ṅé? (< ná-di-hi-į·d-né) *we two pick up* (e.g. a buckskin), hį·dą́ (< hi-į·d-yą́) *we two eat it*, gòn·ʒą́· (< go-ni-į·d-yą́·) *we two are wise*, hį·dą́· (< hi-į·d-ɣą́·) *we two kill them*, bìhį·ʒí·d (< bi-hi-į·d-zí·d *we two pour it in*, hón·ǯí·h (< hó-ni-į·d-ží·h) *we two call him by name*, ʔò·hį·ƛè·h (< ʔò·-hi-į·d-lè·h) *we two lash them together*.

Chiricahua: nà·hi·t̬à? (< nà·-hi-i·d-t̬à?) *we two fly about*, hi·ɬčį· (< hi-i·d-ɬ-čį·) *we two smell it*, hi·t̬à·ɬ (< hi-i·d-ʔà·ɬ) *we two chew it*, nà·hmá·s (< nà·-i·d-má·s) *we two roll off*, dàhdi·hⁿdé (< dàh-di-hi-i·d-ⁿdé) *we two start to move with a load*, hi·dą́ (< hi-i·d-yą́) *we two eat it*, gòn·ʒą́ (< go-ni-i·d-yą́) *we two are wise*, hi·gą́ (< hi-i·d-ɣą́) *we two kill them*, nà·ʔi·ʒi· (< nà·-ʔi-i·d-zi·) *we two work*, hô·ǯí (< hó-i·d-ží) *we two call him by name*, nádi·ƛé (< ná-di-hi-i·d-lé) *we two pick up a rope-like object*.

Mescalero: gọ·tà·ɬ (< go-į·d-tà·ɬ) *we two sing a ceremony*, ʔégọ·ɬtił (< ʔé-go-į·d-ɬ-tił) *we two spread out a fabric-like object*, hį·t̬à·ɬ (< hi-į·d-ʔà·ɬ) *we two chew it*, čéṅ·hmá·s (< čé-ni-į·d-má·s) *we two roll out*, hį·hⁿdih (< hi-į·d-ⁿdih) *we two press it*, hį·dą́ (< hi-į·d-yą́) *we two eat it*, gòṅ·ʒą́ (< go-ni-į·d-yą́) *we two are wise*, hį·gą́ (< hi-į·d-ɣą́) *we two kill them*, nà·ʔi·ʒi· (< nà·-ʔi-į·d-zi·) *we two work*, họ·ǯí (< hó-į·d-ží) *we two call him by name*, bàṅ·ƛé (< bà·-ni-į·d-lé) *we two give him a rope-like object*.

Jicarilla: hį·kà? (< hi-į·d-kà?) *we two pound (a drum)*, ʔọ·ɬkài? (< ʔó-į·d-ɬ-kài?) *we two count it*, hį·t̬à·ɬ (< hi-į·d-ʔà·ɬ) *we two chew it*, hį·hmàs (< hi-į·d-màs) *we two are rolling*, gọ·hⁿdé (< go-į·d-ⁿdé) *we two shout*, hį·dą́? (< hi-į·d-yą́?) *we two eat it*, gòṅ·ʒą́ (< go-ni-į·d-yą́) *we two are wise*, hį·gą́? (< hi-į·d-ɣą́?) *we two kill them*,

nà·ʔį·ʒì·ʔ (< nà·-ʔi-į·d-zì·ʔ) *we two work,* hǫ̨·ʒí (< hó-į·d-ží) *we two call him by name,* hą̀·lè· (< ha-į·d-lè·) *we two pull it out with a rope.*

Lipan: hį·čá (< hi-į·d-čá) *we two bake it,* hį·łčiš (<hi-į·d-ł-čiš) *we two paint it red,* hį·ła·ł (< hi-į·d-ʔà·ł) *we two chew it,* hǫ̀·hmàs (< ho-į·d-màs) *we two are rolling,* nà·hnì· (< nà·-į·d-nì·) *we two give it away,* hį·dą́ (< hi-į·d-yą́) *we two eat it,* hìnį·ʒò·ł (< hi-ni-į·d-yò·ł) *we two blow it,* hį·gà·s (< hi-į·d-γà·s) *we two scratch it,* nà·ʔį·ʒì· (< nà·-ʔi-į·d-zì·) *we two work,* hį·ǯàh (< hi-į·d-žàh) *we two hook it,* nìhį·λíš (< nì-hi-į·d-líš) *we two urinate.*

Kiowa-Apache: ʔè·gǫ̨·čí· (< ʔè·-go-į·d-čí·) *we two dig a hole,* dį·łcé· (< di-į·d-ł-cé·) *we two kill them,* hà·hį·ła·š (< hà·-hi-į·d-ʔà·š) *we two take a round object out,* dį·hmà·s (< di-į·d-mà·s) *we two go off to war,* ʔádį·hní· (< ʔá-di-į·d-ní·) *we two speak thus,* hìγį·gè·s (< hi-γi-į·d-γè·s) *we two carry a burden,* hį·ʒòh (< hi-į·d-zòh) *we two scrape it,* gònį·ǯą́· (< go-ni-į·d-žą́·) *we two are wise,* hį·dą́· (< hi-į·d-žą́·) *we two eat it,* ʔáhį·λá (< ʔá-hi-į·d-lá) *we two do so.* (y does not occur as a stem initial in Kiowa-Apache.)

(g) Navaho, San Carlos oh-, Chiricahua, Mescalero, Jicarilla, Lipan, Kiowa-Apache ah-, second person dual or plural in all paradigms except those employing (h) below. Navaho dòhbá·h (< di-oh-bá·h) *you two go off to war,* dòł?è·ł (< di-oh-ł-ʔè·ł) *you two float it,* dòłdé·h (< di-oh-l-dé·h) you (plural) *start to go;* San Carlos dòhbáh (< di-oh-báh) *you two go off to war,* nà·hbà·h (< nà·-oh-ba·h) *you two go about on the war path;* Chiricahua, Mescalero, Lipan dàhbá (< di-ah-bá) *you two go off to war,* Jicarilla dàhbáh (< di-ah-báh), Kiowa-Apache dàhbá· (< di-ah-bá·).

(h) Navaho, San Carlos ò·- (in all perfective paradigms); Chiricahua, Mescalero à- or àh- (in s- and n- perfective paradigms), à·- or à·h- (in h- perfective paradigms); Jicarilla, Lipan à- (in s- and n- perfective paradigms), à·- (in h- perfective paradigms); Kiowa-Apache à-, second person dual or plural pronoun in the perfective paradigms of zero and ł- class verbs. Navaho, San Carlos sò·łbé·ž (< si-ò·-ł-bé·ž; si-, perfective prefix) *you two have boiled it,* Chiricahua sàłbé·ž, Mescalero sàłbé·ʒ, Jicarilla sàłbéš, Lipan, sàłbíš, Kiowa-Apache sàłbé·š; Navaho ǹnò·ʔą́ (< nì-ni-ò·-ʔą́; ni-, perfective prefix) *you two have set a round object down,* San Carlos ǹnò·ʔą́·, Chiricahua, Mescalero ǹnàʔą́ (or ǹnàhʔą́), Jicarilla, Lipan ǹⁿdàʔą́, Kiowa-Apache nìdàʔą́ (< nì-di-à-ʔą́; di-, an alternant of ni-); Navaho γò·ʔà·l (< yi-ò·-ʔà·l; yi-, perfective prefix) *you two have chewed it,* San Carlos hò·ʔà·l (< hi-ò·-ʔà·l; hi-, perfective prefix), Chiricahua, Mescalero hà·ʔà·l or hà·hʔà·l (< ho-à· [or à·h]-à·l; ho-, perfective prefix), Jicarilla, Lipan hà·ʔà·ł, Kiowa-Apache γàʔà·ł (< γi-à-ʔà·ł; γi-, perfective prefix).

(i) The third person subject pronoun in all the Apachean languages is a zero morpheme. There is, however, a third person indefinite subject prefix, a place-time prefix, and a fourth person subject prefix. All three of these (the deictic prefixes) occupy position 8.

Navaho ʔa-, San Carlos, Chiricahua, Mescalero, Jicarilla, Lipan, Kiowa-Apache ʔi-, indefinite subject prefix. Navaho ʔàzʔą́ (< ʔa-si-ʔą́) *some round object lies* (cf. sìʔą́ [with zero subject prefix] *a [specified] round object lies*), San Carlos ʔìzʔą́·, Chiricahua, Mescalero, Jicarilla, Lipan, ʔì·sʔą́, Kiowa-Apache ʔì·sʔą́·.

Navaho ha-, ho-, San Carlos, Chiricahua, Mescalero, Jicarilla, Lipan, Kiowa-Apache go-, place-time subject prefix. Navaho hàzʔą́ (< ha-si-ʔą́) *(a date) is set, (the ground or house) lies,* San Carlos gòzʔą́·, Chiricahua, Mescalero, Jicarilla, Lipan gò·sʔą́, Kiowa-Apache gò·sʔą́·.

Navaho, Chiricahua ǯi-, San Carlos, Mescalero, Jicarilla, Lipan, Kiowa-Apache či-, fourth person subject prefix. Navaho, Chiricahua ǯìʔà·ł *he* (fourth person.) *chews it,* (cf. yìʔà·ł *he [third person] chews it;* yi-, third person object prefix), San Carlos,

Mescalero, Jicarilla, Lipan, Kiowa-Apache ǯi?à·ɬ.

(j) Apachean subject pronoun prefixes occur in well defined paradigmatic sets. The deictic prefixes, the zero morpheme for the third person, and the first person dual-plural prefix are found in all these sets. The sets may be distinguished, then, in terms of the prefixes for the first person singular, second person singular, and second person dualplural, as follows:

Set 1. š-, first person singular; high tone (as in Navaho and Chiricahua) and its cognates in the other languages, second person singular; Navaho oh- and its cognates, second person dual-plural.

Set 2. š-, first person singular; Navaho nì- and its cognates, second person singular; Navaho oh- and its cognates, second person dual-plural.

Set 3. š-, first person singular; Navaho 'ní- and its cognates, second person singular; Navaho oh- and its cognates, second person dual.

Set 4. Navaho 6- and its cognates, first person singular; Navaho 'ní- and its cognates, second person singular; Navaho ò·- and its cognates, second person dual-plural.

9. Navaho dà-, San Carlos, Chiricahua, Mescalero, Jicarilla, Lipan, Kiowa-Apache dà·-, distributive prefix.

The distributive prefix always occupies position 6. In intransitive verbs, it combines with the first person dual subject prefix, the second person dual subject, the third person (expressed by a zero morpheme) and with the deictic prefixes for the fourth person, the indefinite, and the place-time subject to form the first, second, third, fourth, indefinite, and place-time distributive plurals, respectively. Examples from Navaho: dàdìbá·h *each one of them starts off to war*, dàʒìdìbá·h *each one of them* (fourth person) *starts off to war*, dà?àz?ą *some round objects, each one of them, lie*, dàhàz?ą *several* (e.g., dates), *each separately, are set; several* (e.g., houses), *each separately, lie*, dàdì·bá·h *each one of us starts off to war*, dàdòhbá·h *each one of you* (plural) *starts off to war*.

In transitive verbs, the distributive prefix may in some cases modify the subject of the verb alone, in others modify exclusively the object of the verb, and in still others modify either or both the subject and the object, the precise interpretation being determined by the context in which the verb appears. The following rules cover all cases (all examples given are from Navaho).

When the subject is first or second person singular and the object any person but the first and second person singular, the distributive prefix modifies only the object pronoun. dàìhìšɬè·š (< dà-nìhi-š-ɬè·š) *I blacken each one of you*, dà·šɬè·š (< dà-yi-š-ɬè·š) *I blacken each one of them* (third person), dàhàšɬè·š (< dà-ha-š-ɬè·š) *I blacken each one of them* (fourth person), dà?àšɬè·š (< dà-?a-š-ɬè·š) *I blacken each one of them* (indefinite); dàìhíɬè·š (< dà-nìhi-'-ɬè·š) *you blacken each one of us*, dàìɬè·š (< dà-nì-ɬè·š) *you blacken each one of them* (third person), dàhóɬè·š (< dà-ho-'-ɬè·š) *you blacken each one of them* (fourth person), dà?áɬè·š *you blacken each one of them* (indefinite).

When the subject is any person but the first and second person singular and the object is either first or second person singular, the distributive prefix modifies only the subject pronoun. dàšìɬè·š *each one of them* (third person) *blaçkens me*, dàìɬè·š *each one of them* (third person) *blackens you*, dàšìʒìɬè·š *each one of them* (fourth person) *blackens me*, dàìʒìɬè·š *each one of them* (fourth person) *blackens you*, dànì·ɬè·š *each one of us blackens you*, dàšòhɬè·š *each one of you* (plural) *blackens me*.

In all other cases (i.e. when the subject is any person but the first and second person singular and the object any person but the first and second person singular), the distributive prefix may modify the subject pronoun, the object pronoun, or both. Thus, to take only one example, Navaho dànìhìɬè·š

(dà-, distributive, nihi-, first or second person dual object; zero, third person subject; -ɬè·š *to blacken*) may be interpreted: *he* (third person) *blackens each one of us, each one of them* (third person) *blackens us two, each one of them* (third person) *blackens each one of us, he* (third person) *blackens each one of you* (plural), *each one of them blackens you two, each one of them* (third person) *blackens each one of you* (plural). The precise meaning of such forms must, of course, be derived from the context in which they appear.

When it modifies the indirect object of a verb, the distributive prefix appears before position 1: Navaho dàbà·ɲšʔà·h (< dà-bi-à·-ni-š-ʔà·h) *I give a round object to each one of them.*

10. In Navaho and San Carlos, the third, fourth, indefinite, and place-time pronouns (both subject and object) are interpreted as singular, dual, or simple (i.e. non-distributive) plurals. Thus, for example, yɬè·š may mean *he blackens him, they* (dual or plural) *blacken him, he blackens them* (dual or plural), or *they* (dual or plural) *blacken them* (dual or plural).

The same is true in all the other languages except when it appears necessary to emphasize the duality of the third and fourth persons. In such cases a prefix gó-, occupying the same position as the distributive plural and having the same form in all five languages, is added. Examples from Chiricahua: góyɬè·š *he* (third person) *blackens them* (dual or plural), *they* (third person dual or plural) *blacken him* (third person), *they* (third person dual or plural) *blacken them* (third person dual or plural); góʒɬè·š *he* (fourth person) *blackens them* (third person dual or plural), *they* (fourth person dual or plural) *blacken him* (third person), *they* (fourth person dual or plural) *blacken them* (third person dual or plural). I have no examples of this prefix used with the fourth person object or with the indefinite and place-time pronouns, either as subject or object.

gó-, like the distributive prefix, appears before position 1 when it modifies the indirect object of a verb. Chiricahua góbàɲšʔà· (< gó-bi-à·-ni-š-ʔà·) *I give a round object to each one of them.*

NOTES ON DUWAMISH PHONOLOGY AND MORPHOLOGY

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1. Introduction
2. Consonant pattern
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1. Duwamish is one of the Coast Salish languages of the northwest Pacific coast embracing a group of tribes: Snohomish, Snoqualmi, Puyallup and Duwamish, among which the separate languages are more or less mutually intelligible. Duwamish was spoken by the people living around the south shore of Lake Washington, extending along the west shore to the site of the canal joining the lake to Lake Union, and by families scattered in the Rainier Valley. Nearly all the present day speakers are residing on the Muckleshoots Reservation, near Auburn.

In recording the language two informants were used, grandmother and granddaughter. Slight differences were noted in their pronunciation, particularly in the use of vowels. There are but four true vowels in Duwamish, but nine symbols have been used to render a more accurate orthographic record of the spoken language. Several phonograph recordings were also made and are on file in the Department of Anthropology of the University of Washington.

2. Consonant pattern. Duwamish makes use of a considerable variety of consonants although there are no complicated consonantal clusters such as obtains in Chinook, or in the Interior Salish. Most frequently used consonants are laterals and sibilants.

Following are a few representative consonantal clusters: sxw tq tqq kɬ ɬxw gwɬ gwɬts gwɬd gwɬgw ƛcɬ sɬx tcᴅ kʷtcᴅ tctc tstc bd bdtcᴅ tq̓ sqwqw txw tsl bc pc ɬwl ɬdj ɬdjtcᴅ kwɬtcᴅ djdtcᴅ bdtcᴅdz ɬh ɬcq

Frequently a consonantal cluster acts as a syllabic unit, as for example: gwɬ tcᴅ bd tcɬ ts ks

There are no nasals in Duwamish. The phonemes m and n, which exist in the Interior Salish languages are here replaced by their corresponding sonant stops, b and d.

3. Consonant phonetics.

b — The sonancy is quite distinct, and it may occur in almost any position within a word, e.g. initial, internal, and final. It may occasionally be lengthened by one mora with distinct vocal cord vibration. A preceeding vowel may carry its sonancy over to the b, although the lips remain closed, as in English rubbed.

ʙ — Probably a phonetic variant. In general the sonant stops when occurring in final position lose part of their sonancy. Final aspiration may be slight or distinct.

c — Pronounced as English sh in shut.

d — As in English, but may be rounded slightly when followed by u.

ᴅ — Incompleted final d followed by only slight aspiration. When initiating a syllable, it is a true intermediate phoneme. When followed by an alveolar surd, the aspiration is assimilated with the adjacent phoneme.

	Stops			Fricatives		Affricatives			Nasals	Semi Vowels
	Son.	Surd	Glott.	Son.	Surd	Son.	Surd	Glott.		
bilabial	b	p	ṗ							w
alveolar	d	t	ṫ		s	dz	ts	ṫs		
C series					c	dj	tc	ṫc		y
Palatals	g	k	k̓		x		kx			
					xᵘ					
Palatals rounded	gw	kw	k̓w		xw					
Velar		q	q̓		x̣					
Velar rounded		qw	q̓w		x̣w					
Faucal			ʔ		h					
Lateral				l	ɬ		kɬ	ṫɬ		

dj Of infrequent occurrence, and pronounced as G in George.

dz Pronounced as ds in English dads.

g Rarely found except in an initial position.

gw This phoneme is of frequent occurrence. Most of the mid and back palatal consonants are rounded.

h Not of frequent occurrence, but when used, is sounded as in English.

k Mid palatal position, similar to English, but frequently more strongly aspirated.

k̓ The many slight variations of this phoneme are rather difficult to distinguish, since an adjoining phoneme alters its sound in obscure ways. It occurs with lengthening, so that a continued passage of air through the glottis results in a rapid series of rasping breaks. Only slight differences differentiate this phoneme from the related glottalized velar consonant, q̓, except when followed by u, when its position is advanced rather far forward.

k̓ᵘ In pronunciation this form of rounded k̓w differs from the latter, because the u is in reality a voiceless vowel. The palatal is well forward.

kw As in English quick.

k̓w Glottalized form of kw, but without lengthening.

kɬ A consonantal cluster of infrequent occurrence. Both consonants are pronounced so closely together as to emerge almost as a single phoneme.

l When occurring initially, especially when followed directly by another consonant, l is sonant.

ʟ Final l as pronounced by the older people is an almost voiceless intermediate, with only slight sonancy. A peculiarly light sound, almost unheard as the tongue goes into position because the flow of air around it is so slight as to be barely discernible. This phenomenon of slighting the final phoneme has been reported in Oregon Alsea and Miluk Coos where final n of a syllable appears nearly voiceless. (Jacobs mss.)

ɬ Surd l, common to all the Salish languages, coastal and interior.

p As in English but with more forceful aspiration following.

ṗ Infrequently occurring. The p is sharply glottalized followed by strong aspiration except where followed by a voiceless u, when aspiration is relatively weak and glottalization soft.

q Velar k, sounded far back in the throat. It varies toward velar g

in an intermediate position, especially when rounded.

q̇ The vibration of the glottis is continued slightly so that q̇ is not made with a single closure. If a consonant may be said to have mora length, this phoneme would have about one and a half mora. Where a two mora length has been indicated, the sound has been transcribed as q̇x.

qw Rounded q of rather frequent occurrence.

q̇w Of rather infrequent occurrence.

s One of the most frequently occurring phonemes in the language. It may occur both as a unit morpheme and as a phememe. Is pronounced as in English, and never palatalized.

t As in English table.

ṫ Not infrequently found. It possesses strong aspiration and is sharply explosive.

tc English ch in church.

ṫc Strongly explosive tc.

ts May initiate or complete a syllabic unit. Is sounded as ts in English hats.

ṫs Sharply and clearly glottalized ts.

ṫł Contrary to the usual glottalization practice of sharp explosiveness, this phoneme is usually pronounced rather softly, sometimes with a length of one and a half mora.

w Usually occurring in conjunction with another consonant in its rounded form. Is semi-vocalic when following a vowel, thus producing a modified diphthong.

x Normally a mid-palatal, though appears farther forward when followed by i.

x̣ Harshly distinct as ch in Low German ach.

xw Rounded mid-palatal. It does not appear in final position except as x^u where the final vowel is voiceless.

x̣w Not of frequent occurrence.

y Like w this is a semi vowel, and when following a vowel, it modifies it in rapid speech. In the word for *grandmother*, kȧiya', the diphthong is a true one, and the y is a true consonant.

Glottal stop which functions as a true consonant. Most final sonant vowels are followed by glottal closure.

4. Consonantal changes. Consonantal modifications occur principally as mechanical accompaniments to a change in the mouth cavity anticipating or following adjacent phonemes. In rare cases does a consonantal change manifest itself as a phenomenon of morphologic importance, and such modifications occur only incidental to established rules of grammar.

Most words ending with a vowel are followed by glottal closure. This may be replaced by an enclitic such as the possessive pronouns, verbal pronouns and verbalizers.

The final consonant (L) is frequently dropped entirely. This is an almost exact parallel to Southern Oregon Miluk Coos where final n becomes non-phonemic N, or is entirely lost. (Jacob's mss.) It is possible that the tongue takes the phonemic position but no air is permitted to pass.

Since the final consonants b, d, l, t occur in the intermediate position in the usual word or stem, these are changed to true consonants in the verb terminations where they are no longer final but must initiate the last syllable.

5. Vowels and diphthongs. The vowels may be conveniently classified as primary and secondary.

Primary: a, i, u, ɑ,

Secondary: ə, ɛ, ȧ, ɪ, ʊ.

When sounded as pure vowels, these phonemes show the characteristics of Sweet's terminology, but the presence of adjacent vowels or consonants modifies them considerably. The pronounciation of the i vowel varied most, from e in English met to

i in French fini, and to i in English hit. Where iota has been used in the texts, it is sounded closer to French i, as in fini, than to English i in hit.

The vowel u is intermediate between its sound in German gut and German so. This is particularly true when it carries the accent. It may become modified to the sound of the vowel in English full.

The dull vowel ə occurs most in rapid speech, and is often a ligature vowel between two adjacent consonants. It is duller and less distinct than *a*, and rarely carries an accent. Sometimes it substitutes for another vowel in rapid speech, or when the regular vowel is itself not distinct. Before glottalized ts it takes on a slight r tinge.

a is one of the commonest phonemes in the language. This is undoubtedly a modification of the vowel a, as in German Mann, and therefore really of secondary character.

Vocalic changes resulting from elisions and progressive or regressive combinations occur so rarely in Duwamish as to be unnoticed. Such changes are known from adjacent languages, but are not familiar to this language. However, vocalic lengthening is distinct and clearly recognized. The dull vowels do not usually contain length, but a, i, and u may have a length of a single mora, or of two mora. It is unlikely that vowel lengthening is a phonemic requirement of morphology, except in words denoting time, duration, distance and number. Lengthening produces a rhythmic quality, varying with nuances of expression. When the speaker is excited, his vowels are lengthened and include tonal qualities relating to his emotion. Some words may be drawn out six or seven mora for emphasis.

Surd vowels: The vowel u when characteristic of verb terminations is sounded without sonancy. When affiliated with the directional element t—, it loses sonancy and becomes whispered. When the verbal termination containing voiceless u is followed by another suffix, the vowel becomes w, thereby rounding the preceding consonant.

The diphthongs most commonly found are: ai, au, ei, iu, ui. In rapid speech diphthongs occur where they do not exist under syllabification. Diphthongs containing vowels intermediate to European sounds are likewise intermediate.

6. Syllables and stress. Duwamish is a language containing a superabundance of consonants when compared to other regional stock languages. The majority of consonants occur more frequently than any of the vowels. It is therefore logical to expect a group of syllabic entities which are somewhat complicated in phonemic structure.

Many consonants appear as syllabic entities of morphologic importance. Some are so distinct that where it is difficult for the taxeme to become a complement of an adjacent syllable, it may be set off by a glottal closure.

Stress and accent are characteristic of the language. Accent is usually placed on heavy syllables, not necessarily distinguished by length. In rare instances the accent may fall on syllables containing only consonants in the unit, although such stress usually falls on the principal vowel.

7. Word order. In a simple sentence, the order of ideas is rather rigidly maintained as follows: verb, article, agent, article, recipient. Compound sentences are made up of two or more simple sentences connected by the coordinating conjunction, gála, which may be used as a free morpheme, or as a verbal prefix. Simple sentences in which the agent is not indicated, but having adverbial or prepositional phrases have the order as: verb, article, recipient, prepositional free morpheme, object of preposition. Other word orders may be derived from the above with the addition of modifiers, adverbs, etc. which generally follow the direct object or recipient of the verbal action.

Descriptive adjectives usually preceed their substantives, except where emphasis places them after the noun. Gerunds and participles follow the substantive to which they may refer.

8. Stems. We distinguish verbal, nominal, reduplicated, and compositional stems.

Verbal stems. The usual order of morphemes bound to a verbal theme finds such morphologic elements as prefixes, infixes, suffixes and enclitics. To find the stem of a verb it is necessary to divest the theme of secondary morphemes. Duwamish stems appear to be predominantly monosyllabic. Verb themes may be broken up in the following orders of bound morphemes: (1) temporal element, stem, pronoun, directional, locative; (2) obligative, pronoun agent, temporal, stem, tense indicator; (3) obligative, pronoun, continuative, temporal, stem; (4) temporal, stem, pronoun (transitive present tense simple stem); (5) pronoun, temporal, stem, incorporated object, verbalizer; (6) nominalizer, stem, possessive pronoun.

Nominal stems. The number of morphemes acting upon a nominal stem is relatively small when compared with the verbal forms. These comprise principally possessional modifiers and demonstratives. The usual order of morphemes is: (1) stem, gender termination (if feminine); (2) nouns derived from verbs have prefixed s—,which acts to make the verbal root passive; (3) possessive pronouns are both prefixed and suffixed directly to the stem according to the person involved.

Reduplicated stems. A stem may have its initiating syllable reduplicated to indicate distributive plural, and its initiating consonant or vowel reduplicated to indicate diminutive. A combination of both is permissible.

Compositional stems. Frequently a noun may be a combination of two stems, the principal one coming first being the primary root, usually verbal, and the secondary root being compositional, usually the object incorporated.

9. Reduplication. Stem reduplication yields the simple plural: stubc *man*, stububc *men;* sqwabái *dog*, sqwabqwabái *dogs*. Reduplication of the first syllable, or initiating consonant, yields the diminutive: sqwa-qwabái *little dog, pup;* á'lal *house*, á'alal *little house*. Combination of these create the diminutive plural: sqwa-qwa-qwabái' *many little dogs;* á'a'alal *many little houses*. Duplication of the entire word possibly represents the distributive plural. Internal reduplication of the stem vowel changes the number of the stem from singular to plural: tił *the one;* tí'ił *they, them;* tí'i'ɬ *the scattered little ones*.

10. Numeral system. Numeration in Duwamish does not seem as complex as in the related Salishan languages, although all of the elements of the quatracount system appear to a certain degree. Boas in his Chehalis texts pointed out four methods of counting, which phenomenon likewise appears in the interior Salishan languages. In Duwamish only two numeral forms were found, the abstract or inanimate, and the personal, or animate. Numerals which are multiples of ten have suffixed—atci'.

The numerals which are multiples of a hundred, e.g., two hundred, three hundred, etc. are formed by prefixing the abstract forms to the ten-times-ten numeral listed in the table: 200 sálsbk̓wátci'; 300 ɬx^{u}sbk̓wátci'; 1000 s^{u}ɬɬátci'.

11. Affixes. We distinguish proclisis and prefixation, enclisis and suffixation, and infixation of the roots and incorporated objects.

The use of proclitics is quite common, especially since many morphemes which normally exist freely may also be loosely bound to the following words. Also a considerable number of elements may be prefixed to the stems. These include adverbial elements,

	Abstract	Personal	Cardinal	Repetition	Times ten
1	déɨtcu'	déɨtsɬcu'	dzíxᵘ	dɨcáxᵘ	
2	sá·li'	sá·li'	liɬláq	tsɬbá·b	sála'atci'
3	ɬíxᵘ	ɬíxwixᵘ	líxwálls	ɬixwáɬ	sɬíxwatci'
4	bu·s	bəbú'	bú·sálils	bu·sáɬ	sbúsatci'
5	tsɬláts	tsɬláts	tslátsálils	tslátsaɬ	səlátsatci'
6	dzəlátci'	dzəlátci'	dzlátci'álils	dzlátci'əɬ	dzəlátci'atci'
7	ɬsú'kws	ɬsú'gú'kws	ɬsúkwsálils	ɬsúkwsaɬ	ɬsúkwsatci'
8	tqátci'	tqqátci'	tqátci'álil	tqátci'əɬ	tqátci'atci'
9	xʷɑl	xʷəlál	xʷlálils	xʷlóɬ	sxʷlátci'
10	pádats	pádadats	pádatsálils	pá·datsóɬ	sbk̓wátcí

possessional pronouns, personal pronouns, locative elements, modal tense elements, quantitative elements marking *some, many*, etc., demonstratives, nominalizers, negative particles.

Enclisis and suffixation. These are among the most important grammatical processes in the language since practically all the modes and tenses, the majority of pronominal differentiations, and verb terminations are formed by this process. Verb terminations are more enclitic in nature than suffixational, and especially is this to be noted of the pronominal agents. Derived elements are true suffixes; formal elements are enclitics.

Infixation: compositional roots and incorporated objects. True infixation is rare, being found almost solely in the insertion of an s into the demonstrative pronouns; e.g. tiɬ, tsiɬ, in order to denote feminine gender.

Compositional roots are usually abbreviated forms of the free word which are to be found incorporated into a verb theme, either as the direct object or the indirect object. Names of body parts, of many geographical features and the personal pronouns exist as real substantives when used nominatively or as objects of prepositions. When of secondary importance in the idea, these morphemes emerge as incorporated suffixes attached to the stem. Incorporated objects usually follow the stem and are themselves followed by the verbalizing enclitics.

12. Demonstrative pronouns. There is in Duwamish a category of pronouns which act as demonstratives. These same morphemes may be used in an agentive sense when followed by the subject of an action. Below is a table of the pronouns following the order set down by Boas in his Chehalis text analysis.

There are other demonstratives which do not seem to fall into the above classifications. In those above note the almost universal ti—. This element may be categorized as agentive. The morphemes ki, kwi act both as prefixed proclitics or as independent free morphemes. di— refers to some previously named or thought-of thing.

The following demonstratives are unclassified: kwíɬu *such things, the like;* tsúdi' (fem.) see túdi'; túdi' *those far away;* túba *the same one.*

13. Sex gender exists in Duwamish as a borrowing from the non-Salish northwest coast stock languages. It is not found in the interior Salish group and exists in Duwamish only in the insertion of an —s— in the demonstrative pronouns. Sex gender is not used to denote the sex of the agent of an action, or of the nominative personal pronouns. When it is used, it refers to the sex of the thing or person spoken about. The word for *grandmother*, káiya', obviously a term dealing with feminine sex, has no element of sex gender connected. But, *the grandmother*, is tsɑ́ káiya', where the demonstrative is used in the feminine form.

non-feminine	feminine	reference
ti, tiʟ	tsi, tsiʟ	general indefinite
ati	atsi	general definite
tɬ	tsɬ	definite present
tá'a	tsá'a	definite absent
altí	altsí	locative general indefinite
atɬ	atsɬ	locative general definite
altits	altsits	locative
atits	atsits	?
tɬ'ɬ	tsɬ'ɬ	definite present plural
tɬ'i'ɬ	tsɬ'i'ɬ	indefinite number present
dɬ		definite repetitive, *same*
diɬɬ		definite repetitive, *same*
ki	ksi	indefinite number, *some*
kwi		indefinite number, *some*
akwi		locative general indefinite

14. Directional suffixes. The idea of motion acting along something is expressed by an infix, —lɬ—. The idea of motion passing by, through or leaving the thing toward which it is directed untouched is expressed by —gwə́lə—. The morpheme —a·' bats expresses the idea that conjunction takes place between the action and the object toward which the action is directed, and that contact such as on, against, under, etc. has been made. The morpheme —a·' ligwd, attaches to the idea of side with respect to the agent of the action, whether it be the right or left side. The tᵘ—which initiates most directional suffixes marks motion *to, toward.*

—tᵘcáq	*upwards*
—tᵘɬ̓ɬəp	*downwards*
—tᵘdí'i	*over there*
—tᵘɬ̓a·'ɬ	*forwards, across*
—tᵘɬ̓ɬəpa·'bats	*under*
—tᵘcqa·'bats	*on*
—dzəha·'ligwəd	*to the right side*
—tᵘqala·'ligwəd	*to the left side*
—tᵘláq'	*behind*
—tᵘxwálxad	*down river, northwards*
—tᵘ'qéixᵘ	*up river*
—tᵘk̓hú·ləgwadxᵘ	*toward the east*
—tᵘdzíxᵘ (dzíxᵘ, first)	*ahead, toward the front*
—tᵘdzíxᵘdi·d	*in front of*
—tᵘséilə'átsa	*from*
—tᵘxwəscéi'	*out of*
—tᵘwasədáakw	*into*
—tᵘxwilá·bats	*against*
—tᵘwasɬ̓sál	*out of sight*
—pátɬaɬɬ	*along, anywhere*
—dgwá·bats	*along the inside*
—lɬcá·ɬbíxᵘ	*along the outside*
—lɬcqá·bats	*along the top*
—lɬɬ̓ɬaɬp	*along the bottom*
—tᵘhú·da·gwá·bats	*to the middle*
—tᵘxwí·la·'χa·d	*to the edge*
—tsədɬ̓cu'	*around*
—gwə́ləbálχᵘ	*past, by*
—gwə́ləpátq	*through*

LINGUISTIC CLASSIFICATION OF CATAWBA: PART II[1]

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1. Modal suffixes
2. Affixes of possession
   2a. Inseparable or inalienable
   2b. Separable or alienable

1. The Catawba language possesses an elaborate system of final or terminal suffixes which are uninflected and have the grammatical function of indicating a predication. Except for a few participles, all verbal formatives exhibit such obligatory suffixation and, in addition, substantives and attributives may display the same grammatical device when they become syntactic predicatives. These final suffixes disclose the emotional attitude of the speaker to an event and thereby reveal in what manner a predication is conceived. Although they are not inflections, they constitute a distinct group of formal elements, have an invariable position in the word, possess a well-defined semantic function, and contrast sharply with one another. Therefore, they may be called modal suffixes, although they are not modes in a strict paradigmatic sense. They are productive of all conceivable derivatives.

There are also numerous subterminal or penultimate suffixes in Catawba, some of which are inflected and some of which are not. These, in brief, convey notions of asseveration, negation, emphasis, aspect, and various adverbial conceptions. They will not be discussed in this paper. Tense does not exist as a morphological category in Catawba. Notions of time are left to context, or are implied in the use of the various modal and aspectival suffixes.

The modal suffixes of Catawba are listed below. Appropriate examples are given, using the inflected verb stem ya·- *to dig* (d y y, y y y):

Independent (-re·):
yá·re· *He digs.*
Interrogative (-ne):
yá·ne *Is he digging?*
Dubitative Interrogative (-du·):
yá·du· *Is he really digging?*
Imperative (-de·):
yá·de· *Let him dig!*
Subjunctive (-te·):
yá·te· *If he digs.*
Optative (-nu·):
yá·nu· *O that he were digging!*
Hortative (-ru·):
yá·ru· *He should dig.*
Dubitative (-ti):
yá·ti *Perhaps he digs.*
Intentive (-we·):
yá·we· *He is going to dig.*
Prohibitive (-če·):
yá·če· *Don't let him dig!*
Repudiative (-ta?):
yá·ta? *He doesn't dig at all!*

In order to facilitate a comparison of the Catawba modal suffixes with those of various Siouan languages, all the pertinent information accessible[2] has been epitomized in the

[1] For Part I, See IJAL 11.100–4 (1945). Field work on Catawba was undertaken by the writer in 1941 on the Catawba Reservation near Rock Hill, South Carolina. The chief informant was Sallie Gordon (born 1865), although Robert L. Harris (born 1867), and Sam Blue also served as informants. These three are the only Catawbas who retain knowledge of their language. However, there are some scattered Catawbas living in Colorado and New Mexico, some of whom may still be able to speak Catawba.

[2] The Mandan is taken from E. Kennard, Mandan Grammar, IJAL 9.16–22 (1936); the Iowa from W. Hamilton and S. M. Irvin, An Ioway Grammar, Iowa and Sac Mission Press, 1848 (This is a very rare book; copies are to be found in the Library of Congress, and the Newberry and Watkinson Li-

attached table. Remarks should be made to the effect that lexical and grammatical source materials on the Siouan languages are inadequate for detailed comparative work and are of very uneven quality.[3] It should be emphasized that historical sound changes must be considered in order to make cogent interpretations. Since the comparative phonology of the Siouan languages is virtually an uninvestigated field, resort cannot always be had to known phonetic shifts and a less reliable criterion of probable identity or similarity often must be evoked.

The Catawba independent modal suffix -re· corresponds to the Mandan female-addressed -re, perhaps to Iowa -are· and possibly even to the Hidatsa quotative. Mandan male-addressed -š matches Winnebago -še·, and perhaps Hidatsa -c. The terminations of habitual action in Biloxi, Hidatsa and the Dakota dialects are in apparent agreement with one another, and may possibly be related to some of the independent forms.

Catawba -ne of the interrogative mode apparently agrees with Mandan female-addressed -na and the Iowa participial interrogative -na. The usual Iowa interrogative -če· resembles the correspondents -če and -či which require an immediate reply in Teton and Santee Dakota. The suffix -he of Crow is identical with the usual Teton interrogative, but Hidatsa appears to be anomalous in forming interrogatives by reduplicating final vowels. The Catawba dubitative interrogative -du· finds evident cognates in the Santee Dakota interrogative termination -to and the Hidatsa dubitative ending -to·k. The directions of the several historical semantic changes in the grammatical use of the element concerned is of interest. The Iowa hortative -to seems to match phonetically, but a statement of relationship is extremely hazardous for semantic reasons and the phonological fact that Iowa should have č for the correspondents of Catawba d, Dakota t, and Hidatsa t.[4] On the other hand, the Biloxi interrogative postposition xo constitutes a possible correspondence.

A study of the imperative mode reveals that Catawba shares no terminations with certainty except with Biloxi. There can be no doubt that Catawba -de· and the "female speaking to male" suffix -de of Biloxi are historically the same. The Crow and Hidatsa imperative forms are perhaps anomalous when compared with the endings of the other Siouan groups and are intimately connected, merely reflecting the close relationship existing between the two languages. The female-addressed -na of Mandan and the -na of Teton Dakota which is spoken only by women[5] are patently identical, and are probably cognate to Winnebago -ne·, perhaps even to Iowa -re·. A relationship of these formations to the comparable endings of Catawba and Biloxi seems most tenuous, if not entirely impossible. Al-

braries); Biloxi from J. O. Dorsey and J. R. Swanton, A Dictionary of the Biloxi and Ofo Languages, BAE-B 47.3, etc. (1912); Winnebago from Radin, BAE-B 40, part 1.959–64 (1911); Hidatsa from R. H. Lowie, as edited by Harris and Voegelin, Hidatsa Texts, Prehistory Research Series of the Indiana Historical Society, 1.173–239 (1939), and W. Matthews, Grammar and Dictionary of the Language of the Hidatsa, pp. 42–5 (New York, 1873); Crow from R. H. Lowie, The Crow Language: Grammatical Sketch and Analyzed Text, UCPAAE 39.27–9 (1941); Dakota from F. Boas and E. Deloria, Dakota Grammar, Memoirs of the National Academy of Sciences 23.105–12 (1941); etc.

[3] For example, it is obvious that the distinction between long and short vowels is phonemic in most if not all Siouan languages. Yet only the Hidatsa texts of Harris and Voegelin and perhaps Lowie's Crow seem reliable in this respect.

[4] Catawba d corresponds in one level of sound change to Hidatsa t, Dakota t, Mandan t, and Iowa č, as is shown by Catawba widé·. *cow, buffalo*, Hidatsa wité·, Dakota pté, Mandan pti·, Winnebago če·, and Iowa če·.

[5] The conservatism of female speech-forms is a matter of special note, and is to be observed in several Siouan languages.

Comparative Table of Siouan Modal Suffixes

Mode	Catawba	Mandan	Iowa	Biloxi	Winnebago	Hidatsa	Crow	Dakota (Teton)	Dakota (Santee)
Independent	-re·	-š[1] -re[2]	-ke· -are·[4]	(xa)[7]	-še·	-c (-kša)[7] -ware·-c[13]		(s?a)[7]	(če)[7]
Interrogative	-ne	-ša[1] -na[2]	-če· -na[5] -načе·	(xo)[8] (wo)[9]		–[13]	-he	-he -če[19]	-tɒ -či[19]
Dubitative Interrogative	-du·	-nikuk							
Imperative	-de·	-ta[1] -na[2]	-re·	-tki[10] -de[11]	-ne·	-s[14] -ara[15]	-wa[14] -(wa)ra[15]	-yo,[20]-po -ye,[21]-pe -na[22]	
Subjunctive	-te·	-ki, -t[3]	{-ske· -ta[6]			-ruk			
Optative Hortative	-nu· -ru·	-ki	-to					-ni	-nųwe
Dubitative	-ti	-ox	-asku			{-to·k -ri[18]	-xu		
Intentive	-we·	-tš							
Prohibitive	-če·			(na)[8]					
Repudiative	-ta?					-ta?[17]	-deta[18]		

1. Addressed to men.
2. Addressed to women.
3. Conditional, or contrary to fact.
4. According to Hamilton and Irvin, "indicative mood, perfect tense," but sometimes translated by them in the present tense.
5. A participle, sometimes used as an interrogative (Hamilton and Irvin, p. 58); -načе· is a compound of the two interrogatives.
6. See Hamilton and Irvin, p. 137.
7. Postposition or suffix of customary or habitual action.
8. Postposition.
9. Postposition, used only by males.
10. Male to female, or female to female.
11. Female to male.
12. Quotative.
13. Interrogative formed by reduplication of stem-final vowel.
14. Singular.
15. Plural.
16. Verb suffix of uncertain meaning.
17. Verb suffix of negation.
18. Absolute or emphatic negative suffix.
19. Interrogative calling for immediate reply.
20. Used by men; addressed to singular and plural, respectively.
21. Used by women; addressed to singular and plural, respectively.
22. Used by women, addressed to singular or plural.

though the latter may correspond to Mandan male-addressed -ta in view of the known sound shift of Mandan t to Catawba and Biloxi d,[4] the difference in sex usage makes this likewise improbable.

The subjunctive modal suffix -te· of Catawba is in questionable agreement with Iowa -ta and the Mandan conditional -t. The Catawba optative ending -nu· resembles the optative forms of the Dakota dialects; but the hortative -to of Iowa, and perhaps even the masculine speech-form -yo of the Dakota imperative may represent the same formation when the phonetic shift of Catawba n to Iowa t and Dakota y is considered.[6] The Catawba hortative -ru· has no known correspondent.

The dubitative mode termination -ti of Catawba exactly matches phonetically[7] the Hidatsa verb-final -ri which is described as being of uncertain semantic significance. Hidatsa should be further investigated with this point in view. A mutual relationship may exist between the -xu of Crow, -asku of Iowa, and -ox of Mandan. The Catawba intentive and prohibitive suffixes have no known counterparts. Finally, the repudiative modal ending -ta? of Catawba possesses exact correspondents in the terminations -ta? of Hidatsa and -deta of Crow. The form appears as an emphatic negative in both Catawba and Crow, and perhaps also in Hidatsa; consequently there is not only complete phonetic agreement but also full semantic equivalence.

The observation that the modal suffixes are of widespread distribution throughout most Siouan languages leads to a conclusion which establishes their indisputable antiquity. Patently the Proto-Siouan language had a highly developed system of modal terminations which involved conventional differences of sex usage.[8] The frequent correspondence in this respect of such distantly related languages with such an extended geographic distribution as Crow, Hidatsa, Mandan, Iowa, Biloxi, Dakota and Catawba attest the archaic nature not only of the grammatical trait but also of the actual elements themselves. In the western Siouan languages this morphological feature is often found to be poorly preserved in comparison to Mandan, Iowa and Catawba which are linguistically to be considered as belonging to the old prehistoric Siouan division situated to the east of the Mississippi River.[9] The Catawba suffixes of mode seem archaic except for the loss of the sex distinctions of address. These conventional elements seem to have persisted to a greater degree in Mandan and Biloxi, although they occur in Dakota also. It is a matter of considerable interest to observe that the Catawba independent and interrogative mode suffixes are derived from primitive Siouan forms addressed to women, as is shown by the Mandan reflexes; and the Catawba imperative is likewise originally a female speech-form whose earlier function is maintained in Biloxi. Thus the conservatism of Catawba with regard to the survival of the women's forms and the general archaism of female speech are indicated.

In summary, we find that the Catawba modal endings as a group have two certain and two doubtful cognates in both Mandan and Hidatsa, one certain and three doubtful

[6] Compare Catawba ná·mna? *three*, Iowa tanyi, Dakota yámni, and Mandan ná·mini.

[7] Catawba t is historically equivalent in one level of sound change to Hidatsa r, as is apparent by comparing Catawba i·t *blood*, Hidatsa i·ri, and Crow i·re.

[8] The contrasting elements used by the sexes constitutes a special type of inflection.

[9] In this case linguistic, ethnological and traditional evidence are in unusual agreement regarding the movements of the semi-agricultural Mandan and Iowa. In the early 1830's both Prince Maximilian and George Catlin recorded traditions from the Mandan that they once lived in the East, and Catlin without much basis traces them to the upper Ohio Valley. The Iowa claimed to have once resided east of the Mississippi in the vinicity of the Winnebago. The Mandan, Iowa and Winnebago languages seem somewhat closely related.

correspondents in Iowa, one certain and one doubtful example in Biloxi and Santee Dakota, and one certain agreement with Crow. Not much is known concerning the verb modes of Tutelo, although attention can be called to the fact that Tutelo has a negative mode[10] ending in -na which is evidently a cognate of the Biloxi prohibitive postfix na.

2. The distinction between separable and inseparable possession which is characteristic of the Siouan languages is clearly maintained in Catawba. The classification is not strictly logical but is grammatical and therefore subject to some vagaries. For example, some terms of kinship and some articles of clothing and apparel are found to be inseparable and some of them separable. All body-part nouns are in the inalienable class in Catawba with the single exception of i·t *blood*.

2a. The Catawba inseparable possession is grammatically expressed by a rather complex system of pronominal prefixes which yield at least seven types of formation. These are listed below with some examples of each class.

Class 1: hʃsede·? *his urinary bladder*, hʃpa *his foot*, hʃtu·? *his eye*.

Class 2: hinú·ksu·k *his elbow*, hihá·gyu· *his body*, hʃči· *his nail, claw*, hʃya·p *his tooth*, hʃha· *his side*, há·ksap *coat*

Class 3: hʃską? *his head*, hʃpat *his navel*, hʃtu?su·? *his thigh, hip*, hʃstak *his jaw, cheek*, hʃčipit *his heel*, hʃsida·? *his back*, hʃta·p *his forehead, brow*, hʃksa *his hand, arm*, hʃ?pą *his belly*, hʃtakwa *his waist*, hipʃ·yą *his liver*, hʃsumu·? *his mouth*, ipákta·? *necklace*, ʃsap *leggings, trousers*.

Class 4: hʃpak *his throat*, hʃdat *his neck*, hʃri·t *his shoulder*, hihá·su *his bowels, intestines*.

Class 5: hité·hę? *his kidney*, hipʃsu·? *his nose*, hinúksu *his armpit, axilla*, hipé·tę? *his palate*, hikú·wę *his kneecap, patella*, hidúksu·? *his ear*.

Class 6: hinú·ksa·? *his nape, back of the neck*.

Class 7: hʃne·n *his face*, hʃpke· *his leg, calf*, hʃmę *his heart*, himṵtu *his brain*.

Most articles of clothing are separable but há·ksap *coat* (nihá·ksap *my coat*), ipákta·? *necklace* (dipákta·? *my necklace*), and ʃsap *leggings, trousers* (dʃsap *my leggings*) are inalienable. A few terms of relationship are also inseparable, such as nʃkiča *husband* (nanʃkiča *my husband*).

It is evident that a basic set of consonantal changes or inflections is the chief feature of the pronominal prefixes in Catawba, and that the vowel changes are secondary or suppletive. The fundamental consonantal changes of the Catawba prefixes are given in the appended table, and are compared with the inalienable possessive prefixes of the other Siouan languages.

Person		Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7
Singular	1.	n-	ni-	di-	da-	da-	na-	na-
	2.	y-	yi-	yi-	ya-	ya-	ya-	ya-
	3.	h-	hi-	hi-	hi-	hi-	hi-	hi-
Plural	1.	h-	ha-	ha-	ha-	ha-	ha-	ha-
	2.	w-	wi-	wi-	wi-	wi-	wi-	wi-
	3.	h-	hi-	hi-	hi-	a-	a-	hi-

An underlying grammatical similarity is shown by most of the Siouan inseparable possessive affixes in that the predominating process is prefixation and many of the singular forms are apparently cognates. The agreement of the Catawba second person singular y- with the forms of Biloxi, Tutelo, and perhaps several other languages is noteworthy. Like Catawba, most Siouan lan-

[10] Horatio Hale, The Tutelo Tribe and Language, Proceedings of the American Philosophical Society, vol. 21, no. 114, p. 30; Philadelphia, 1883.

guages place the nouns of parts of the body, things worn on the body, and some relationship terms in the inseparable class. As in Iowa, Crow, Hidatsa and others, the Catawba inalienable possessive prefixes are closely related to and of identical origin with the verbal pronominal prefixes, although in Catawba only a minority of verbs possess such prefixes.

The same consonantal changes are found in the pronominal prefixes of certain Catawba verbs as are seen in the inseparable possessive forms of nouns, except that in the verbs only the (zero)-prefix occurs in the third person plural. The vowel changes are of a purely secondary character. Some verbs with d- in the first person are: tą?- *to wash*, ta·ri- *to listen*, ba·- *to dance*, and ka·wa- *to peel* (datą́re· *I wash*, hitą́re· *he washes*, itą́re· *they wash*). Others have n- in the first person: mi·?- *to leave, depart*, mit- *to shut one's eyes*, mi·t- *to have a cramp*, me·ra·?- *to worry*, and we·?- *to tie (up)* (namí·?sire· *I leave*, himí·?hire· *he leaves*, imí·?ire· *they leave*).

Attention can be called to the correspondence of the first person plural prefixes of Biloxi (unk—tu), Ofo (ǫ-), and Dakota (?ųki-). The pluralizer -tu appears to have been lost in Dakota and other Siouan languages, although persisting in Biloxi and Ofo. In Ofo the suffix -tu is both nominal and verbal. In the first person plural of the Ofo verb a special and perhaps archaic phenomenon is observed. The use of the prefix ǫ- without the suffix -tu indicates a dual subject, while on the other hand the use of both the prefix and suffix is found in verbs with a plural subject (Ofo tékna *he goes*, ǫtékna *we two go*, ǫtéknatu *we go*). In a like manner it seems probable that the Ofo noun when possessed in the first person may suffer a grammatical contrast of dual and plural ownership, but we have no examples to prove this point (Ofo čafhahi *leg*, ǫčafhahi *our legs*, čačafhahitu *your* (pl.) *legs*).

Comparative Table of Siouan Inseparable Possessive Prefixes

	Person	Catawba	Biloxi	Tutelo	Mandan	Dakota	Iowa	Ponca	Hidatsa	Crow
Singular	1.	d-, n-	(u)nk-	wi-, wa-	mi-	mi-, ma-	h-	w(i)-	w(i)-	b(i)-
	2.	y-	ay(i)-	yi-	ni-	ni-	d-	ð(i)	r(i)-	d(i)-
	3.	h-	(zero)-	e-	(zero)-	(zero)-	(zero)-	(i)-	(zero)-	(zero)-
Plural	1.	h-	(u)nk—tu		nu-	?ų(ki)-				
	2.	w-	ay(i)—tu		ni—nite					
	3.	h-, (zero)-	(zero)—tu		—kere					

Ofo (addenda to Comparative Table of Siouan Inseparable Prefixes): 1st sing. b(i)—, m(i)—; 2nd sing. č(i)—; 3rd sing. (zero)—; 1st pl. ǫ—; 2nd pl. č(i)—tu; 3rd pl. (zero)—tu.

2b. Separable possession in Catawba is indicated by a series of nearly homologous, but nevertheless, inflectional suffixes which have no clear counterparts in any other Siouan language. However, inadequate data may be the difficulty. Hidatsa, Crow, Dakota, and Mandan express alienability by prefixation, chiefly by extending or altering the inseparable prefixes. Since there is a sharp contrast between prefixation and suffixation in denoting types of possession in Catawba, it is quite possible that the Catawba alienable forms are archaic, although there is no convincing evidence for such a statement.

The paradigm of the Catawba separable possessive suffixes with an example are given below.

Person	Singular	Plural
1.	-na?	-?a·?
2.	-ya?	-wa?
3.	-wa?	-wa?

mánu· *land, earth, ground*: manú·na? *my land*, manú·ya? *thy land*, manú·wa? *his land*, manú·?a·? *our land*, manú·wa? *your land*, manú·wa? *their land.*

Most terms of relationship and articles of clothing, and all other possessed objects take this inflection. Some examples are: yá·gi̯ča· *wife* (ya·gi̯čá·na? *my wife*), kúri· *son* (kurí·na? *my son*), húkse? *skirt* (huksé?na? *my skirt*), yúhiyą? *dress, aboriginal woman's garment* (yuhiyą?na? *my dress*, yuhiyą?a·? *our dresses*), yá·ma·? *breechcloth*, (*handkerchief* also in recent times; ya·má·?wa? *his breechcloth*), suk *house* (súgna? *my house*, súk?a·? *our house*), i·t *blood* (i·dna? *my blood*, i·t?a·? *our blood*).

The archetypes of which the Catawba separable suffixes are reflexes should shed some light on the structure of Proto-Siouan. It does not seem improbable that the parent language employed both prefixation and suffixation to indicate the two types of possession and that some sort of formal contrast existed between them.

A comparative study of the Siouan possessive affixes which indicate alienability offers some insight into the state of the Catawba formatives and the nature of these elements in Proto-Siouan. Crow and Winnebago employ simple prefixes to mark the separable relationship. Hidatsa, Mandan, Dakota, Osage, and Ofo all express this type of possession by means of an historically identical element of separability or "alienator" which is immediately suffixed to the particular inseparable prefix of some one person and number in each language. In Hidatsa and Mandan this "alienator" is -ta-, in Dakota -t'a-, in Osage -ta, and in Ofo -tha or -txa. In Hidatsa and Mandan, and to a great extent in Dakota, -ta- appears as an extension of the inalienable prefixes which is inserted before the underlying form, and no suffixation is present. On the other hand, in Ofo and Osage the whole compound, including both the inseparable form and the attached "alienator," are suffixed (Ofo tok *brother*, tok-mí-txa *my brother;* Osage tsi *house*, tsi-wí-ta *my house*). The situation in Dakota is peculiar in that in one special instance it follows the pattern of Ofo and Osage. In order to grammatically emphasize the contrast of what is mine, yours or his, as opposed to the property of others, the Dakota speaker will likewise suffix the compounded formatives and, in addition, employ the final suffix -wa which is of unknown significance (Dakota wíyą-mi-t'a-wa *my wife*).

The Catawba first and second person singular separable suffixes -na? and -ya? are clearly the same inflections as appear in the inseparable forms with the addition of the final glottal stop phoneme. The ? may be a phonetic vestige of the Proto-Siouan "alienator" which has been reduced by the weakening of final short vowels, but proof is lacking. The -wa? of the second person plural, and the third person singular and plural, is probably due to suppletion, and may be derived from the same historical source as the Dakota final suffix -wa. If this is correct, then the glottal stop of Catawba -wa? would appear to be analogic. It is, of course, possible that a process of syncretism might account for -wa?, but this is a less likely hypothesis in view of the fact that the zero affix would be expected in the third person if this were the case. Catawba -?a·? of the first person plural is a residual form and remains unexplained on a comparative basis. It is either the continuant of some ancient form or an innovation. In either case, it would appear to be the same element as the suffixed verbal inflection of the momentaneous

aspect in the first person plural, with the glottal stop as a possible analogical extension (ha·ʔke- *to answer*, ha·ʔkésire· *I answer*, ha·ʔké?a·re· *we answer;* -ʔa·- being the first person plural momentaneous inflection, and -re· the independent modal suffix). If the forms are of the same origin then extensive suppletive changes in the one direction or the other are indicated.

In conclusion, it can be emphasized that Catawba agrees with Ofo and Osage in using pronominal suffixes to express alienable possession and that this seems to have been the ancient state in Siouan grammar.

MOCK SPANISH OF A MIXTECO INDIAN

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1. Introduction
2. Text with literal translation
3. Free translation
4. Cultural and linguistic commentary

1. Introduction. In a previous paper[1] I presented a text in which a foreign speaker of Mixteco utilized its three tones (['] high, mid, and [`] low) erroneously; the native speakers of the language replied with words which had the same vowels and consonants, but different tones—and thereby produced irrelevant answers which appeared to be courteous but were actually designed to confuse the foreigner. The present text[2] contrasts with that one in the setting. Here a Mixteco Indian from Southern Mexico went to work for several months on an hacienda where Spanish was spoken. Soon he returned, not knowing Spanish but pretending to do so, and adopting the airs of a learned man. To prove that he knew Spanish, he utilized the few words of the language which he did know—though often he did not know their meanings—and invented nonsense words to fill in the gap, by twisting the tones of the words of his own Mixteco into shapes unrecognizable to his unlettered colleagues. The climax of the story arrives when he tries to serve as an interpreter for a monolingual.

It is interesting to observe, then, that in the previous text the erroneous tones of Mixteco were placed in the mouth of a foreigner, but here they are utilized deliberately by the native himself. Following the text, each of the pertinent incidents will be analyzed separately.[3]

Angel Merecías is the narrator of this story from whom, in conjunction with Narciso Merecías, I obtained the other text also. This time, however, Angel heard the story first from a native of San Esteban, also in the district of Tlaxiaco, Oaxaca, but about ten miles away from his own town of San Miguel el Grande. Narciso has given me a different version of the story, but Angel's is presented here.

2. TEXT AND LITERAL TRANSLATION

k^{w}e^{n}dú lorensó [1. story Laurence]

nì-ʔìo ʔəən čàa ʔa-náʔán [2. was one man a-long-time-ago] nì-náni-de lé^{n}čú [3. named-he Larry] te-lúlí-de [4. and little-he] nì-^{n}dìto-de kənò nuù náà-de. [5. watched-he pigs for mother-his.] te-nì-sáa-de dañú híntà. [6. and-made-he damage with-animals.] te-nì-hàʔa-ña táʔù-dé. [7. and-gave-she beating-him.] te-nì-hinu-de nì-haʔàn-de žùča-^{n}čoʔo. [8. and-ran-he went-he Puebla (river--+ ʔ).] žúan nì-kà-^{n}dee-de ʔunì žoò [9. there remained-he three moon] ní-sá-tiñu-de nuù ʔə́ən čàa nì-kuu lamú-de. [10. worked-he for one man was boss-his.] te žúan nì-hinì-de ñúʔun ^{n}duči kúùn núù lamú-de. [11. and then saw-he present eye four (glasses) on boss-his.] te-káʔu čàa-ún ʔəən tutù [12. and reading man-that one paper] te-háʔa-de pasiá žu-šéʔ-de. [13. and-passing-he (a) walk (in) yard-his.]

te-suni súan nì-sáa lé^{n}čú [14. and-likewise thus did Larry] ní-na-haà-de ñuù-de nuù náà-de. [15. arriving-anew-he town-his to mother-his.] nì-haan-de ʔəən ^{n}duči kúùn [16. bought-he one eye four] te-nì-čuʔun-

[1] Tone Puns in Mixteco, IJAL 11.000 (1945).

[2] The text itself was transcribed in connection with research carried on under the auspices of the Summer Institute of Linguistics, Glendale, California, in various field trips from 1935–45. I am indebted to the University of Michigan for a Lloyd Post-doctoral Fellowship which has made possible the preparation of this manuscript.

[3] The symbols are the same as those used in previous papers cited, and need not be repeated here.

de nuù-dé. [17. and-put-he on-himself.] te-nì-sáa-de súan [18. and-did-he thus] ná-tù?un nì-hinì-de [19 like saw-he] nì-sáa lamú-de. [20. did boss-his.] te-nì-kà-hani ?inì tá?an-de [21. and-all-hit inside (i.e. they thought) comrade-his] hà-ṣáàn tú?a nì-kuu-de [22. that very learned was-he] hà-ní-ha?àn-de žùča ⁿčo?o [23. since-went-he Puebla] čì-ñuù-de túu čàa ká?u tutù [24. because-town-his not man counting paper (reading)] ni-túu čàa ká?àn sà-stilá [25. nor not man speaking item-Castillian (Spanish)] ?oⁿdè sáá. [26. at-that far-time.]

žúan-na te-nì-ka?àn-de híín náà-de [27. then said-he to mother-his] nù-hikán-de staà kéé-dé, [28. when asking-he bread (tortilla) eat-he,] "sà-nà-káà [29. something-stretches] sà-nà-kʷíⁿgò, [30. something-wiggles,] sà-nà-kʷáàn [31. something yellow] sà-nà-kʷíhìn [32. something-white] ṣinì žáká, [33 top-of corn-crib,] nánà, "[34. ma!"] ?áčí-de híni-ña. [35. says-he to-her.] te-tú-ní-hú-kù?un ?inì-ña. [36. and-not-understood she.] te-nì-kana-ña ṣiní kʷá?a-ña [37. and-called-she brother-her] ní-ka?àn híín-de. [38. spoke (she) to-him (to uncle).]

te-?áčí-de híín stóò-de, [39. and says he (Larry) to uncle-his,] hà-kúñu [40. that-meat] híín ⁿdəbó [41. with eggs] hikán-de kee-dé [42. asks-he eat-he] nuù náà-de. [43. from mother-his.]

žúan-na te-nì-kačì stoò-de híín-de: [44. then said uncle-his to-him:] "te-nà-saa žoò [45. and-how-many moon] ní-ha?àn-rò [46. went-you (familiar)] há-bwenú nì-ku-tù?a-ró lorénsò?" [47. that-well became-learned-you Laurence?"]

te-?áčí-de híín stóò-de, [48. and-says-he to uncle-his,] "trés lúnà," [49. three moon,"] ?áčí-de. [50. says-he.]

te-nì-kačì tuku stoò-de híín-de, [51. and-spoke again uncle-his to-him,] "te-nà-ún nání táká žunu [52. and-what called all tree] ká-?ìin žá?a, [53. standing here,] te-nú-tù?a nì-kuu-ró?" [54. and-if-learned have-become-you?"]

te-nì-kačì lorensó híín stóò-de, [55. and-said Laurence to uncle-his,] "se-žámà, [56. they-are-called,] tùn-žúšà, [57. pine,] tùn-?inì, [58. juniper,] tùn-káhì, [59. oak,] tùn-ⁿdé?è, "[60. peach,"] ?áčí léⁿčú [61: says Larry] ní-ṣⁿdá?ú-de stoò-de. [62. caused-to-be-unfortunate-he (i.e. he deceived) uncle-his.]

žúan-na te-nì-kuu kəbə̀. [63. then were days.] te-?əən čàa kúu mayordomó [64. and-one man is manager-of-feast (mayordomo)] nì-tatù-de léⁿčú [65. hired-he Larry] ní-ha?àn híín-de žuku ⁿdáá [66. went with-him Teposcolula (Mountain Straight)] há-kʷá-kʷàan-de ⁿda-tíñu-de híín, [67. that-go-buy-he thing-he with (him),] čì-tǔ-kúu ka?àn-de sà-stilá, [68. because-not-can speak-he Spanish,] te-léⁿčú čì-kúu ká?àn, [69. as-for-Larry because-can talking,] ná-bà?a ka?àn híín čáa ṣíkó tieⁿdá. [70. in-order-to talk to man sells (in) store.]

te-nì-haà léⁿčú-ún tieⁿdá [71. and arrived Larry-that-one store] hikán-de ñu-ká?ⁿdə̀ [72. asks-he dirt-exploding (i.e. powder)] híín kʷeté. [73. with sky-rockets.] te-nì-kačì-de, [74. and-said-he,] kiérò púlgà [75. I-want flea] para práàŋ práàŋ [76. for praang praang] i čitóòŋ čitóòŋ ke-ásé ṣṣṣṣtóòŋ pà-říbà," [77. and chitoong chitoong that-goes shhh shtong upwards,"] ?áčí-de híín čáa tieⁿdá. [78. says-he to man store.]

te-nì-ki?in čàa tieⁿdá-ún bará [79. and-took man store-that rod] hà-čí-kʷà?a-de sa?ma. [80. that-measures-he cloth.] toⁿdó nì-kuun-de ṣinì lórensó. [81. much came-down-on-he head Laurence.]

te-nì-keⁿda kʷa?àn. [82. and-went-out went-away.] te-ni-kačì čàa kúu mayordomó-ún híín lórensó, [83. and-said man is feast-

manager-that to Laurence,] "na-hà ní-hà?a čàa-ún ta?ù-rò lé^{n}čù?" [84. why gave man-that hit-you Larry?] ?áčí-de. [85. says-he.]

te-nì-kačì lé^{n}čú, [86. and-said Larry,] "tú-ní-hú-kù?un ?inì [87. "not-understand] hà-ká?àn-ná [88. what-say-I] čì-^{n}díčí ṣáàn ká?àn-ná. [89. because-wise extremely speak-I.] žùán ní-kuun žunu ṣiní-ná, "[90. therefore brought-down stick head-my,"] ?áčí lorensó híín čáa kúu mayordomó. [91. says Laurence to man is feast-manager.]

te-nì-te?^{n}dè-ni tù?un [92. and-broke-just word] hà-tú-ní-ní?ì-dé [93. that-not-get-he] hà-kuní-de [94. what-wants-he] híín le^{n}čú. [95. with Larry.]

nì-^{n}ə?ə-ni k^{w}e^{n}dú-de. [96. ended-just story-of-him.]

3. FREE TRANSLATION

The Story of Laurence

A long time ago there was a man named Larry. And when he was little he used to keep watch over the pigs for his mother. And he allowed the pigs to do considerable damage [in people's crops]. So his mother beat him. Then he ran away and came to Puebla. There he stayed three moons [commentary (1)], working for a man who was his boss. He noticed that his boss wore four eyes (that is, glasses), and that he kept walking back and forth in the yard, reading.

And so Larry did the same way, when he came back to his mother's village. He bought a pair of glasses, and put them on, and did just as he had seen his boss do. And his companions thought that he had become very learned since he went to Puebla,—because nobody could read, and nobody could talk Spanish, in his town at that time long ago.

Then he said to his mother, when he asked her for something to eat, "Mother, something that stretches, something that wiggles, something yellow, something white, on top of the corncrib!" says he to her. [commentary (2)].

But she didn't understand. She called her brother who came and spoke to Larry.

Then Larry told his uncle that it was meat and eggs that he was asking for, from his mother, to eat.

Then his uncle said to him, "And how many moons were you gone, that you have learned so well, Laurence?"

And he says to his uncle, "Three moon" says he. [commentary (3)].

And his uncle spoke to him again: "And what are the names of all the trees standing here, if you are really so learned?"

And Laurence said to his uncle, "They are called 'Pine, juniper, oak, peach,'" says Larry, tricking his uncle. (commentary (4)]

Then some days went by, and a man who was manager of a feast hired Larry to go with him to Teposcolula [commentary (5)], that he might go with Larry to buy his things, because the feast man ger couldn't speak Spanish,—so that Larry might talk to the storekeeper for him.

So Larry came to the store, asking for powder (exploding dirt) and skyrockets. And he said, "I want flea for praang praang, and chitoong, chitoong, that goes shhhh shtoong, upwards," says he to the storekeeper [commentary (6)].

And the storekeeper took the stick that he measured cloth with, and gave Laurence a terrific whack over the head.

And they went away. And the fellow who was manager of the feast said to Laurence, "Why did that fellow hit you, Larry," says he.

And Larry said, "He didn't understand because I speak so very eruditely. That's the reason he whacked me over the head with the stick," says Laurence to the fellow who was manager of the feast. [commentary (7)].

So everything was all off; the manager didn't get what he wanted, with Larry.

That is the end of his story.

4. Cultural and linguistic commentary.

(1). Three months was a sufficient length of time. In fact, to this day, robbery, assault and battery, and other grave offenses tend to be overlooked if, before the constabulary catch him, the guilty person manages to absent himself from six months to two years.

(2). Wanting something to eat, he said, sà-nà-káà sà-nà-kʷíⁿsò sà-nà-kʷáàn sà-nà-kʷíhìn ʂìnì žákà nánà. (See Text, phrases 29–34.) Larry wanted meat and eggs, but instead of asking for them in normal Mixteco he spoke in a riddle. For meat, he asked for *something which stretches and wiggles*. This, explained Angel, was because jerked beef, which comes in long strips, wiggles and twists and moves in the frying pan, and it was to this that Larry referred. For the eggs, he said, *something yellow, something white, on top of the corncrib*. The yellow and white were to describe the yolk and the white of the egg. Many of the hen houses are small affairs perched up high on stilts, to keep the coyotes from jumping into them or burrowing under them and eating the flock. Apparently this particular hen house was on top of the corncrib to which Larry here referred. This was not purely a riddle, however. There were tonal complications. The basic lexical pitches of the words used were deliberately modified in such a way as to make them into nonsense. Thus, káà should have been kaà; kʷíⁿgò should have been kʷíⁿgó; kʷáàn should have been kʷàán; kʷíhìn should have been kʷìhín; and žákà should have been žaká. All of the words, regardless of the tones which they should have had, were given a high and a low pitch. This simulated the intonation of Spanish—with a falling pitch on the end of phrases instead of pitch controlled by the innate tones of the words. Larry was providing his own intelligence (1) by saying something which was not intelligible to his mother and (2) by giving to it a mock Spanish intonation which would indicate that he must be speaking a language other than his own—which his mother would of course assume to be the Spanish which he had heard.

In the story as told by Angel, dialect changes make the explanation more difficult. The first part of these first two phrases, i.e. sà-nà- in sà-nà-káà sà-nà-kʷíⁿgò, Angel interprets to mean, in his own speech, hà-ná-. In that case the [h] of San Miguel el Grande would represent the [s] for these words in the originating dialect, or in the dialect of the speaker from whom Angel heard the story. This particular sound change is often found in the region, but I have not yet had the opportunity to check it for these words in San Esteban, so I do not know the validity of this guess. The translation would be *that which . . .* i.e. *that which bends*. Compare analysis in IJAL 10.113–38 (1944). As an optional but less probable suggestion, it could represent the dialectally modified form of an abbreviated sa?àn, meaning vaguely *doctrine* or *content*.

(3). He gives a literal translation of the Mixteco unì žoò, in which *moon* and *month* are both represented by žoò. (See for example, phrase 9.) Instead of using the Spanish word mes *month*, he replies with the word luna *moon*. Furthermore, in Mixteco there is no pluralization of nouns, as such (but only the use of extra words for quantity, as in *many tree, five table*, and so on). He has not learned the Spanish plural and merely gives the Spanish singular luna instead of the plural lunas (or, correctly, meses for *months*).

(4). The Mixtecos are frequently testing each other's learning and intellectual capacity by a trial of wits. The one with the most ability is the one who is able to ask the most questions. Thus they remark about a stranger, "My he is smart, look at all the questions he can ask." Likewise, if anyone claims to be able to speak their language, they almost immediately challenge him by asking, "What do you call' this? [e.g. a stone] and this? and this?' Larry's uncle, then, illustrates the Mixteco custom very well, in reverse. Observing

Larry's claim to be able to speak Spanish, he immediately challenges it with a quiz; he asks Larry to name the trees, in the new tongue. (Phrases 52–4.) Larry replies with ordinary Mixteco names disguised in incorrect tones (and introduced by the Spanish phrases se llama *it is named*). The following table shows the English translation, the Spanish word he supposedly was replying with, the correct Mixteco form for San Miguel el Grande, then the incorrect form as mock Spanish, and, finally, the form modified a bit more, presumably because of the dialect of San Esteban in which it was told to Angel. (See phrases 56–9.)

English name	Local Spanish name	Correct Mixteco S. Mig. Gr.	Mock Spanish S. M. G.	Mock Spanish of San Esteban
pine	ocote	nû-ɨ́úsyá	nû-ɨ́úsyà	tûn-ɨ́úsyà
juniper	enebro	nu-ʔínĭ	nû-ʔínĭ	tûn-ʔínĭ
oak	encina	nu-káhĭ	nû-káhĭ	tûn-káhĭ
peach	durazno	nu-ⁿdè²é	nû-ⁿdé²ę̀	tûn-ⁿdé²ę̀

Notice that in the correct form the tones on the different trees are not all alike. The pine has the proclitic low, and the two syllables of the main item high; the other three words have the proclitic on a mid tone, and the remainder with two syllables low and high respectively. In the mock-Spanish form, all the tones are given with but one tone pattern, low-high-low. This tone change is to mimic the intonation of falling Spanish intonation, which does not depend for its pitches upon the particular word involved.

The proclitic nu- appears to be an abbreviation of the word žunu *tree;* in abbreviation, words which have a medial consonant other than glottal stop, tend to lose their first syllables. There are various forms of the word now found in dialects bordering on that of San Miguel el Grande. In Yucuañe the form is žutnu; in Yosondua, the word appears as žuhnu; from speakers of other towns I have heard žutun. Apparently the oldest form is that of Yucuañe; in Yosondua, the [t] was spirantized to [h]; in San Miguel el Grande the [t] was completely lost; in other dialects the [n] was lost after first nasalizing the following vowel (symbolized here with the postvocalic [n]). It is this last dialect which is reflected in the story as told here.

(5). In earlier days, Teposcolula was one of the most important cities in the region, commercially and in political and religious authority. The monolingual Mixteco-speaking manager of a religious festival wanted to buy powder to make skyrockets which were then—and are now—used in connection with the rites.

(6). Larry, in asking for powder, began well. His first Spanish word, quiero [kiero] was correct, meaning *I want.* (Phrase 75.) On the second word, he met difficulty. Obviously he had heard the Spanish word polvora *powder*, but did not remember it accurately. He said, therefore, that he wanted pulga *flea.* Both [o] and [u] occur in Mixteco, so the vowels were simply misremembered; there was no phonemic interference there. The consonant cluster [lv] could have caused trouble, although he was used to two-consonant clusters in the middle of words. The [r] is found in a few words in San Miguel el Grande, but in many Mixteco dialects it does not occur otherwise than in words now borrowed from Spanish; if Larry came from one of these, the [r] might have caused difficulty for that reason. On the other hand, the [g] is extremely rare, occurring in only one enclitic of the native words of the San Miguel dialect, but it would be probably less difficult because of a parallel with a bilabial voiced fricative, which varies to a stop.

(7). Even when his strategem fails to gain the proper results with the Spanish-speaking store keeper, Larry attempts to preserve his local prestige by refusing to divulge the true nature of his difficulty. Rather, he turns it to his account by attributing the misunderstanding to the other person's ignorance rather than to his own.

Linguistically, this reflects a cultural interest in speech styles which are considered to be either very learned or the contrary.

It appears to be related to the manner in which words are borrowed by the Mixtecos from the Spanish; whenever a Mixteco speaker wishes to give the impression of dignity and power and cultural progressiveness, he will use many Spanish words mixed in with his Mixteco, even though the Mixteco words suppressed are otherwise at that moment in common use. In this way, the men, in talking in public, often use Spanish words which they would not use at home and which their wives and children do not understand at all. This in turn lays the groundwork for a stratification of loan words in accordance with the cultural situation in which the speaker finds himself. For this reason, in practical working with the language, one can never assume that a loan word has been assimilated until one has checked to be sure that it is in common use in the home.

Borrowed words can be utilized very readily, by inserting them into the proper formulas. Practically any verb, for example, can be borrowed by placing the infinitive in the formula *do you* [or other subject] . . . in which the three dots indicate the Spanish verb modified tonally. Compare sáa-ní kompráàr, from Spanish comprar *to buy*, i.e. *buy it*.

Furthermore, the areas culturally less progressive tend to retain some older Mixteco usages which have disappeared elsewhere. Thus, in San Miguel el Grande for *please* one says sáa-ní fabóòr, which is literally *do-you favor*, i.e. *please do me a favor*. Here fabóòr is a modification of the Spanish word favor, modified according to the Mixteco tone pattern (in which words stressed in Spanish on the last syllable tend to be borrowed with a falling tone, from high to low, presumably reflecting a tonal reinterpretation by the Mixtecos of the Spanish intonation; Spanish words with stress on the penult retain the Mixteco phonetic stress at the same place, but usually with mid tone on the stressed syllable and high tone on the unstressed one—thus, mesa becomes mesá *table*). Angel told me that he had never heard a native Mixteco way of saying *please* until he became town secretary and was asked by a man from High Mountain, a backward area of the township, to record a birth; the man asked him to sáa-ní tù?un manì ?inì *do-you word to-love inside* i.e. *act in a manner which reflects the inward qualities of love*, i.e. *please*.

In conclusion, we may state that the story of Larry is interesting because it demonstrates (1) the prestige of bilingualism in a monolingual community, (2) cultural pressure toward the assimilation of loan words, (3) phonetic, tonal, dialectal, and grammatical interference with a person attempting to speak a foreign language, (4) humor based upon linguistic phases of cultural pressures, (5) deliberate linguistic modification as the mechanical device to express this humor.

CHINOOK JARGON

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1. Area of 19th century Chinook Jargon
2. Conventional explanations to account for the Jargon
3. Chinook words used
4. Phonetic influences bearing on the Jargon
5. Word order
6. Verbs
7. Nouns
8. Syntax and syntactic words

1. Previous to the nineteenth century, there existed on the Northwest Coast of this continent a remarkably large number of Indian languages, each language being in use over a very small territory, and differing greatly from others spoken in its immediate vicinity. The Northwest Coast having been, previous to the turn of the century and throughout the century, a rendezvous of fur-traders, explorers, missionaries, prospectors, and pioneer settlers, it is not surprising that there should have grown up a trade language to afford means of communication. Incidental references in the narratives of early travellers confirm its growth: such references as Captain Vancouver's comment, on the occasion of his visit of December, 1792, to Gray's Harbor, near the mouth of the Columbia, "Mr. Whidbey estimated the number of Indians inhabiting the place at about one hundred; they spoke the Nootka language, but it did not seem to be their native tongue;"[1] and the note of October 27, 1805, in the History of the Expedition Under Lewis and Clarke, "... Before they went we obtained from them a vocabulary of the Echeloot, their native language; and, on comparison, were surprised at its difference from the Eneeshur tongue. In fact, although the Echeloots, who live at the Great Narrows, are not more than six miles from the Eneeshurs, who reside at and above the Great Falls, the two people are separated by a broad distinction of language. The Eneeshurs are understood by all the tribes on the Columbia above the Falls; but at that place they meet with the unintelligible language of the Echeloots, which descends the river from thence a considerable distance. Yet this may, after all, be only a difference of dialect and not a radical difference, since in both languages many words are the same; and the identity cannot be accounted for by supposing that their neighborhood has interwoven them into daily conversation, since the same words are equally familiar among all the Flathead bands we have passed."[2] More specific evidence is offered by Captain John Meares, who, in connection with his visit to Nootka in September, 1788, records an utterance of the chief Maquilla, 'cloosh, cloosh, *good, good!*';[3] by John R. Jewitt, who, describing his two years of captivity at Nootka immediately following 1803, states in a note that the common expression for *you do not know* at Nootka is wik-kum-atush;[4] and by Lewis and Clarke, who, in 1805, heard Indians of the Lower Columbia make use of the expression Clouch musket, waket commatax musket *good musket, do not understand this kind of musket.*[5] The Jargon terms kloshe *good;* wake *not;* and kumtux *understand* (one must make the necessary allowance for the variation in

[1] George Vancouver, Voyage of Discovery, London, 1798. Vol. 2, p. 83.

[2] History of the Expedition Under the Command of Lewis and Clarke, London, 1893, p. 672.

[3] John Meares, Voyages Made in the Years 1788 and 1789 from China to the North West Coast of America, London, 1790, p. 257.

[4] John R. Jewitt, Narrative of the Sufferings of John R. Jewitt, New York, 1816, footnote on last page.

[5] Lewis and Clarke, op. cit., p. 732.

spelling always characterizing the Jargon) are seen to be in use over a wide territory.

2. Three theories have been advanced as to the origin of the Chinook Jargon. The first theory, that it originated with the Hudson's Bay Company, is now generally discredited. A second theory has been put forward: that the Jargon originated among the Indians of the Pacific Northwest long previous to the first visits of the white men. J. A. Costello says, "Like other languages formed for convenience, it is in all probability a gradual growth. There seems but little doubt that the rudiments of it first existed among the natives themselves and that the trappers and hunters adopted it and improved upon it to facilitate intercourse with the natives."[6] Edward H. Thomas is more specific in his idea: in a preface to his Chinook, a History and Dictionary of the Northwest Coast Trade Jargon,[7] he insists that the Jargon had its beginning in the "trade necessities of prehistoric slave and shell-money commerce" carried on primarily between the Chinook Indians of the Lower Columbia and the "equally powerful, intelligent, and enterprising" Nootka Indians of the West Coast of Vancouver Island, this jargon slowly developing by accretion as the result of contact with other Indian nations—words of French and English origin being added when the traders came, in the early years of the last century. This idea is echoed by Chester Fee, in his article Oregon's Historical Esperanto—the Chinook Jargon.[8] Many authorities regard this theory as unproved and insist that the advent of the white trader gave the Jargon its original stimulus. This third theory was stated at some length by George Shaw in 1909, in a preface to his volume, The Chinook Jargon and How to Use It.

"English and American trading ships first appeared on the northwest coast during the closing years of the last century. The great number of languages spoken by the native tribes proved to be a serious hindrance to their business. . . . Unfortunately, all these languages,—the Nookta, Nisqually, Chinook, Chihailish, and others,—were alike harsh in pronunciation, complex in structure, and each spoken over a very limited space. But, as the harbor of Nootka was at that time the headquarters as chief emporium of the trade, it was necessarily the case that some words of the dialect there spoken became known to the traders, and the Indians, on the other hand, were made familiar with a few English words. These, with the assistance of signs, were sufficient for the slight intercourse that was then maintained. Afterwards the traders began to frequent the Columbia River, and naturally attempted to communicate with the natives there by means of the words which they had found intelligible at Nootka. The Chinooks, who are quick at catching sounds, soon acquired these words, both Nootka and English, and we find that they were in use among them as early as the visit of Lewis and Clarke in 1804. But when, at a later period, the white traders of Astor's expeditions, and from other quarters, made permanent establishments in Oregon, it was soon found that the scanty list of nouns, verbs, and adjectives then in use was not

[6] J. A. Costello, The Siwash, Their Life Legends and Tales, Seattle, 1895, p. 15.

[7] Edward H. Thomas, *Chinook, A History and Dictionary of the Northwest Coast Trade Jargon.* Portland, 1935, p. 26. This volume contains a good bibliography of the Jargon. See also H. L. Mencken, *The American Language,* New York, 1938, p. 150 ff.; Chester A. Fee, Oregon's Historical Esperanto—the Chinook Jargon, in Oregon Historical Quarterly XLII.176–85; Robie L. Reid, The Chinook Jargon, in British Columbia Historical Quarterly VI.1–11; F. W. Howay, Origin of the Chinook Jargon of the North West Coast, in B. C. Historical Quarterly VI.225–50 (reprinted in Oregon Historical Quarterly XLIV.27–55); Melville Jacobs, Texts in Chinook Jargon, in U. of Washington Publications in Anthropology VII. 1–27; Rena V. Grant, The Chinook Jargon, Past and Present, in California Folklore Quarterly III. 259–76 (1944).

[8] C. A. Fee, op. cit.

sufficient for the more constant and general intercourse which began to take place. A real language, complete in all its parts, however limited in extent, was required; and it was soon found by drawing upon the Chinook for such words as were requisite, in order to add to the skeleton which they had already possessed the sinews and the tendons, the connecting ligaments, as it were, of a speech. These consisted of the numerals (the ten digits and the word for hundred), twelve pronouns (I, thou, ye, he, she, they, this, other, all, both, who, what), and about twenty adverbs and prepositions (such as now, then, formerly, soon, across, ashore, offshore, inland, above, below, to, with, etc.). Having appropriated these and a few other words of the same tongue, the Trade Language—or, as it now began to be styled, the 'Jargon,' assumed a regular shape, and became of great service as a means of general intercourse. But the new idiom received additions from other sources. The Canadian voyageurs, as they were called, who enlisted in the service of the British and American fur companies, were brought more closely in contact with the Indians than any others of the foreigners. They did not merely trade; they travelled, hunted, ate, and, in short, lived with them on terms of familiarity. The consequence was that several words of the French language were added to the slender stock of the Jargon." This theory that the Chinook Jargon was evolved by the maritime traders is vigorously supported by Judge Frederick Howay, in his recent article, Origin of the Chinook Jargon of the Northwest Coast.

3. Certainly, whatever its origin, a form of the Jargon was in use prior to the turn of the century—attaining a probable maximum use in the 1870's, at which period it is estimated to have been used daily by more than a hundred thousand persons. The use of the Jargon declined gradually, as a knowledge of English became general among the Indians. In certain sections of British Columbia, at the present time, the Jargon is still used to some extent by the Indians. It is still used, here and there, by the older Indian Agents; and it is known to many of the older Indians throughout the province. To the white population in general, however, and to the younger Indians, it is to all intents and purposes a dead language. A popular Vancouver evening news-broadcast does regularly bring in the Chinook greeting Klahowya tillicums; and the University of British Columbia college yell is, it is true, largely a hodge-podge of Indian place-names and expressions from the Chinook Jargon:

Kilsilano, Capilano, Siwash squaw!
Klahowya tillicum, Skookum wah!
Hiyu Muck-a-muck. Muck-a-muck a zip!
B.C. Varsity, rip, rip, rip!
V-A-R-S-I-T-Y——Varsity!

Some sixteen expressions from the Jargon—cheechako, chinook, cultus, hiyu, kamass, klahowya, klootchman, muckamuck, potlatch, salal, salt chuck, Siskiyou, Siwash, skookum, tillicum, tyee—have, indeed, come into familiar use;[9] and many local geographical names,—for example Canim Lake, Chikamin Lake, Ipsoot Creek, Killipi Creek, Kloosh Creek, Memaloose Creek, Mesachie Lake, Mowitch Point, Nanitsch Lake, Olally Lake, Snass Lake, Wawa Lake

[9] See word-list in my article CFQ III.266-71. *Re* the word SIWASH this supplementary information should be noted: The use of the term in a contemptuous sense dates, in British Columbia, at least as far back as the late nineties. The Indians themselves would say of one of their race for whom they felt contempt, Yaka delate siwash! *He's nothing but a no-account Indian.* A somewhat odd development occurs in the North: The Haida Indians of the Queen Charlotte Islands, a most intellectual and handsome tribe, held ALL the other coast tribes in contempt, and referred to them as SIWASH. C. C. Perry, former Indian commissioner, tells me that in 1908 he heard the Tsimpshean Indians of Port Essington so characterized. The Haidas had only contempt for the Chinook Jargon, which they characterized as SIWASH talk.

—trace their origin to the Jargon. I question, though, whether most of the people who use these terms so freely have any idea of their origin.

The maximum vocabulary ever attained by the Jargon is estimated by George Gibbs to have been in the neighborhood of five hundred words—some of Chinook, Nootkan, English, or French origin; some from Salish dialects other than the Chinook; others purely onomatopoeic. About half the Jargon terms are of Chinook origin. This group includes all the pronouns; the numbers; important adverbs such as alta *now*, alki *in the future*, ahnkuttie *formerly*, hyak *quickly*, kah *where*, kahta *why*, klawah *slowly*, klonas *perhaps*, kunsih *how far*, *how many*, kwanesum *always*, nowitka *certainly*, yah-wa *there*, yukwa *here;* very important adjectives such as cultus *worthless*, konaway *every*, *all*, mesachie *bad*, sitkum *half;* prepositions such as kimtah *after* and the all-important kopa [See PREPOSITIONS]; such nouns as canim *canoe*, tillikum *people*, illahee *country*. Approximately twenty-four terms are from the Nootkan: essential verbs such as the causative mamook *do*, *make*, and chako *come*, *become*, klatawa *go*, kumtux *understand*, nanitch *see*, potlatch *give;* words used both as adjectives and adverbs, hyas *very*, *large*, hi-yu *much*, *many*, tenas *little*, *small;* the noun klootchman *woman*. Of Salish origin is the word skookum *strong*, used both as noun and as adjective.

Onomatopoeic terms in the Jargon include the following: chik-chik, *wagon*, *cart*, *wheel* (imitating the squeaking sound of wagon-wheels); poo *shoot* (imitating sound of gun); tik-tik *watch*, hyas tik-tik *clock*. The term tik-tik is also used of the telegraph. The supervisor of the coast telegraph in British Columbia was known among the Indians as the Tik-tik tyee. tin-tin *a bell*, *music;* tum-tum *heart*, *spirit* (supposed to imitate the sound of the beating of the heart); kweh-kweh *mallard duck;* kah-kah *crow;* chak-chak *bald eagle;* lip-lip *to boil;* hee-hee *laughter*, *to laugh* (This onomatopoeic term is said to be of Chinook origin); puk-puk *blow from fist;* tumwata *waterfall* (Here, only the first syllable is onomatopoeic).

Many words pass into the Jargon in almost exactly their original form: lebal, latate, lalang, lekleh, from the French; salt, stick, sun, boat, sail, mama, papa, from the English are cases in point. But Englishman, Frenchman, and Indian do not pronounce words in the same fashion; the same sounds do not appear in all three languages; and in the attempt to find a least common denominator of pronunciation many word-forms are altered.

4. Harsh, guttural, clucking sounds characterize the speech of the Indians of the northwest coast. Father Bolduc wrote of "le tchinouc jargon".[10] "Cette langue est très pauvre et insuffisante. Il est absolument inutile d'en former une grammaire ou un dictionnaire, d'ailleurs on ne pourrait en donner la pronunciation: il faut absolument l'entendre prononcer, encore a-t-on de la peine à la saisir." Judge Swan's comment on the Indian pronunciation reads: "The peculiar clucking sound is produced by the tongue pressing against the roof of the mouth, and pronouncing a word ending with *tl* as if there were the letter *k* at the end of the *tl;* but it is impossible, in any form or method of spelling that I know of, to convey the proper guttural clucking sound. Sometimes they will, as if for their amusement, end all their words with *tl;* and the effect is ludicrous to hear three or four talking at the same time with this singular sound, like so many sitting hens."[11] The harsh Indian gutturals are later somewhat modified in the Jargon, softened to h and k.

Englishman and Indian alike find difficulty in pronouncing the French nasal sounds. They appear in the Jargon, there-

[10] Father J. B. Z. Bolduc, Mission de la Colombie, Quebec, 1862.

[11] J. G. Swan, The Northwest Coast, or Three Years at Shoalwater Bay, New York, 1857, p. 315.

fore, in modified form; for example, cochon becomes cosho (kō-shō), la main becomes lemah (lē-mä),[12] le mouton becomes lemooto (lē m ō ō tō). Many French words appear in the Jargon in what might be called a simplified form—sometimes with the loss of a syllable; for example, puis becomes pee (pē), le pied becomes lepee (lepée), la peuple becomes lapeep (lä pēp), la bouche becomes laboos, sauvage becomes siwash (sí wŏsh).

The English -dge sound causing difficulty, it becomes -tsh. The Jargon term for Englishman, King George man, becomes King Chautsh man; the English word sturgeon becomes stutchin. The English -ld sound seems also to cause difficulty. English cold becomes cole; English old man becomes oleman. Sometimes English *d* is modified to *t;* for example, dance becomes tanse. English *z* becomes *s*. English -ame is shortened to "-em": as in nem *name*, and shem *shame*.

Because of the Indian's inability to pronounce either r or f, many words, both English and French, appear in the Jargon in altered form: An f invariably becomes p; r either becomes l, or is omitted altogether. We note the following terms from English: dolla *dollar;* shugah *sugar;* pepah *paper;* tomollo *tomorrow;* lice *rice;* glease *grease;* dly *dry;* doctin *doctor*, pish *fish;* kaupy *coffee;* piah *fire*. We note the following modifications from the French: cooley from courir, delate (pronounced dē lāt) from droite, lacloa (lä kló ä) from la croix, leplet (li p let) from le prêtre, mahsh (mähsh) from marche, mahsie (mäh sie) from merci.

It is only recently that the spelling of words in the Jargon has become comparatively standardized. In consulting old word-lists and dictionaries, one is apt, in some cases, to find the variation in spelling somewhat confusing. These differences in spelling may be attributed to the facts that those who recorded the words made an attempt to spell them phonetically, and that it was difficult to represent with accuracy the guttural clucking sounds characteristic of the Indian languages; that the men who recorded the words were of different nationalities and different degrees of keenness of hearing; and that the pronunciation of words might vary slightly, depending on the locality in which an Indian lived, or on the nationality of a white speaker. We note such variants as: tlutchimi, tlotchman, kleuchman, cloochman, klootchman; sakalé, sahalie, sockally, saghalie; culte, kwelte; tloos, tlush, tloch, clouch, cloosh, close, kloshe; possissee, pississy, pasesse, pasese, pasissi; sickaminny, chikmin, chinkamin, chickamin, chickamen, chickamun, chikamin.

5. Word order. No absolutely hard and fast rule can be laid down regarding the order of words in a sentence. In general, the tendency is to follow the English order—a conspicuous exception being the placing of the negative particle before subject and verb.

Halo nika kumtux [*No I understand*] *I do not understand.*

Wake mika hyas solleks [*Not you very angry*] *Do not be very angry.*

It is to be noted, in this connection, that one of the factors contributing to the flexibility of the Jargon is the ease with which a slight change in word-order may alter the meaning of a sentence.

Delate nika sick tumtum *Really* (*truly*) *I'm sorry.*

Nika delate sick tumtum *I'm very sorry.*

Mika kumtux Chinook wawa? *Do you understand Chinook?*

Mika kumtux wawa Chinook? *Do you know how to talk Chinook?*

6. Verbs. Verbs in the Chinook Jargon are not inflected: the same form is used whatever the person, number, tense, mood, or voice, of the verb; moreover, that one form does duty as verb, infinitive, participle, and gerund.

[12] See Edward H. Thomas, op. cit., p. 119, for pronunciations.

Nika tikky klatawa *I want to go.*

Yaka klatawa Poteland *He goes to Portland.*

Nika nanitch yaka klatawa *I see him going.*

As the Jargon is, essentially, a spoken rather than a written tongue, the exact shade of meaning may depend on the speaker's intonation. Frequently, the tense of the verb is left to be inferred from the context; for example, Yaka klatawa Seattle can mean either *He goes to Seattle* or *He went to Seattle.* As a rule, however, certain adverbs are employed to mark time distinctions: alta *now;* alki *by and by, soon;* ahnkuttie *formerly, long ago.*

It is to be noted that the prolonging of a syllable in such words as deláte *very,* siáh *far off* (to denote very great distance siah-siah is sometimes used), lály *a long time,* and áhnkuttie *formerly,* intensifies the meaning.

Present tense of verb klatawa *to go:* alta nika klatawa *I go, I am going, now I go;* alta mika klatawa *thou goest, you go;* alta yaka klatawa *he goes, it goes;* alta nesika klatawa *we go;* alta mesika klatawa *you go;* alta klaska klatawa *they go.* Past tense: ahnkuttie nika klatawa *I went, formerly I went, I went some time ago.* Future tense: alki nika klatawa *I shall go, after a while I shall go.*

The Interrogative form of the verb can be indicated by a rising inflection of the voice. Sometimes the interrogative form of the verb is indicated by having the expression kloshe spose *good if* precede the subject.

Yaka klatawa? *Is he going?*

Kloshe spose nika klatawa? *Shall I go?*

Kah mika mitlite? *Where do you live?*

As is the case with interrogative forms of the verb, the Imperative Mood may be indicated, in speech, by intonation. Special uses of the expressions spose *if,* kloshe spose *good if,* wake kloshe *not good* are, however, to be noted.

Klatawa! *Go!*

Kloshe nesika klatawa *let us go.*

Saghalie Tyee wawa kloshe nesika mamook man *God said, "Let us make man."*

Wake kloshe mika klatawa *do not go.*

Wake kloshe mika kapswalla *do not steal.*

Spose yaka klatawa *if he goes.*

There is no subjunctive mood in the Jargon.

The Passive Voice is formed by using chako *come, become;* or, but only occasionally, by placing iskum *get, got,* before the verb.

Yaka chako kokshut, *it was broken.*

It is to be noted, however, that in many cases where English would use a passive form, the Jargon omits the auxiliary.

Yaka kopet *it is finished.*

As might be expected of a language with its limited vocabulary, the Jargon boasts a vast number of compound expressions. In the making of verb compounds, the three verbs chako, mamook, and mahsh are extensively employed. Chako, in addition to its being used regularly to form the Passive Voice, makes appearance in such expressions as the following: chako huloima [*become different*] *vary;* chako solleks [*become angry*] *quarrel;* chako memaloose [*become dead* or *rotten*] *die; decay;* chako kunamoxt [*become together*] *assemble.*

Mamook (verb and noun) has been declared the most useful word in the Jargon. As a verb, it appears, usually with causative force, in innumerable cases. Father Le Jeune's Chinook Rudiments[13] lists one hundred and ninety-eight expressions in which it occurs. The following are typical: mamook kahkwa [*make like*] *mimic;* mamook kumtux [*make know*] *teach, explain, inform;* mamook kunsih [*make how many*] *count;* mamook skookum [*make strong*] *strengthen;* mamook skookum tumtum [*make strong heart*] *encourage;* mamook mimaloose [*make dead*] *kill;* mamook lekleh [*make key*] *lock;* mamook kow [*make fastened*] *tie;* mamook keekwullie [*make low*] *lower;* mamook kwass

[13] Father J. M. LeJeune, Chinook Rudiments, Kamloops, B. C., 1924.

[*make afraid*] *frighten;* mamook chako [*make come*] *make come;* mamook kopet [*make stop*] *stop, finish;* mamook puk-puk [*make fist-fight*] *box;* mamook elip [*make first*] *begin;* mamook poo [*make poo* (sound of gun)] *shoot;* mamook piah [*make fire*] *cook.*

Mamook is used in some cases with another verb purely to give transitive force: hullel *shake* (intrans.) mamook hullel *shake* (trans.)

The verb mahsh (from the French marche) has a great many different meanings, these being specifically determined by the context. When the verb mahsh is used in a compound verb, it usually conveys either the idea of (1) *putting* or the idea of (2) *doing away with.* (1) mahsh kopa illahee [*put in early*] *bury;* mahsh kunamoxt [*put next*] *mix;* mahsh keekwullie [*put under*] *lower* (2) mahsh kow *untie;* mahsh lekleh *unlock.*

As has already been indicated, the Jargon leans heavily upon compounds. Many a simple English verb can be translated only by some lengthy compound; for example, the verbs *wade, ride, adore.*

Yaka klatawa kopa lapee kopa chuck kopa boat [*He goes on foot in water to boat*] *He wades to the boat.*

Yaka cooley kopa lapee kopa chuck, *he is wading* (idly wading, not going anywhere in particular).

Yaka klatawa kopa kuitan [*He goes on horse*] *he rides* (on horseback).

Yaka klatawa kopa chik-chik [*He goes in wagon*] *he rides* (in a wagon).

Klaska delate kloshe tumtum kopa yaka [*They very good heart toward him*] *they adore him.*

Mitlite is another very important Jargon verb, meaning *to stay at, dwell, exist, be.* Like the English verb to be it can be used either as copula verb or as notional; and can be used impersonally. Except in the sense of *dwelling* or *existing,* or except in the case of its being used emphatically, the verb mitlite is ordinarily omitted—in which case, if the subject is a noun, we usually find the redundant use of the personal pronoun.

Yaka mitlite yahwa *he is there.*

Chali yaka hyas kloshe *Charlie is very good*

Mika delate kloshe tumtum kopa kahmooks *I am very fond of dogs.*

7. Nouns. Nouns are not inflected. The only exceptions to this rule are tillicum and klootchman, which are inflected for number, being respectively tillicums and klootchmen in the plural. Tillicum, incidentally, was not inflected originally. The noun iktas (things) is used only in the plural. There are three types of nouns: Common, Proper, and Abstract—the first type far outnumbering the others. An English Collective Noun is translated into the Jargon by preceding the noun by some such word as hiyu *many;* e.g., hiyu sheep *flock* (*of sheep*), hiyu kalakala *flock* (*of birds*). Proper nouns include: names of persons (Saghalie Tyee, Jésus, Chali, John, etc.), names of places (Poteland, Bictoli), nouns indicating nationality (King Chautsh man *Englishman;* Boston man *American;* Pasiooks *Frenchman*), and the noun Sunday—the other days of the week being translated by the expressions ikt sun *Monday* (*the first day*); moxt sun *Tuesday* (*the second day*), etc. There are some abstract nouns in the Jargon (e.g., shem *shame*) but very often the Jargon equivalent of an English Abstract Noun is a compound: skookum tumtum [*strong heart*] *courage;* kloshe nem [*good name*] *honor;* sick tumtum [*sick heart*] *jealousy, sorrow.* When there is a Jargon word for an abstract noun, that word, it will be noted, very frequently serves as both noun and adjective, sometimes also as verb.

death, memaloose (n., v., adj.)
gaiety, he-he (n., v., adj.)
fear, kwass (n., v., adj.)
evil, mesachie (n., adj.)
anger, solleks (n., adj.)
darkness, polaklie (n., adj.)

8. Syntax and syntactic words. Possessive case of nouns is indicated in either of two ways:

1. Preferably by putting yaka after the noun: Saghalie Tyee yaka pepah [*God his book*] *God's book* (*the Bible*).

2. By putting kopa before the noun: Okoke house kopa John [*That house to John*] *that is John's house.*

Pronouns are not inflected.[14] Interrogative—Ikta? *What?* Ikta mika mamook? *What are you doing?* Klaksta? *Who?* Ikta okoke? *What (is) that?* Klaksta mamook okoke? *Who did that?* Conjunctive—Klaksta *who, which.* Nesika Papa klaksta mitlite kopa Saghalie *Our father who art in Heaven.* Demonstrative—Okoke *this, that, these, those.* Ikta okoke? *What (is) that?* (Okoke klaksta *he who, these who*). Nika *I, me, my, mine.* Nesika *we, our, ours, us.* Mika *thee, thou, thy, thine, you, your, yours.* Mesika *you, your, yours.* Yaka *he, his, him, she, her, hers, it, its.* Klaska *they, their, theirs, them.* The personal pronouns become possessive when they occur before nouns, as in nika nem *my name;* mika kahmooks *your dog;* nesika papa *our father.* English Reflexives would be translated in the following fashion: Nika kokshut nika *I hurt myself.* Yaka memaloose yaka *he killed himself.* English Indefinite pronouns have to be translated by compounds; for example, tenas hiyu *few.* Klaska klonas klaxta mitlite kopa house [*They doubtful who is in house*] *Someone is in the house.*

[14] E. H. Thomas, op. cit., p. 96, says: "Sometimes an s is added to the personal pronouns in the possessive case; thus, *nikas*, mine; *mesikas*, yours; *yakas*, his or hers; *klaskas*, theirs. Eells says this mode is used only when the pronoun is the last word in the sentence, thus: *Okoke kiuitan nikas*, that horse is ours."

Positive	Comparative	Superlative
Kloshe *good*	elip kloshe *better*	elip kloshe kopa konaway [better than all] *best* or delate elip kloshe [very better] *best*
skookum *strong*	elip skookum *stronger*	elip skookum kopa konaway or, delate elip skookum *strongest*

The redundant use of yaka is found where the verb to be is omitted. Nika kiuitan yaka memaloose [*Our horse he dead*] *our horse is dead.* Okoke canim yaka kloshe *that canoe is good.*

Adjectives ordinarily precede the noun as in English. Types of adjectives are: Qualitative, Quantitative, Interrogative. Demonstrative, Numeral, and Distributive. Adjectives are not inflected.

Qualitative: cultus *worthless;* kloshe *good:* mesachie *evil;* cole *cold;* hyas *large*, etc.

Quantitative: hiyu *many, much;* tenas *few* (also used as Qualitative adjective meaning *little*), etc.

Interrogative: kunsih *how much, how many?;* ikta *what?*

Demonstrative: okoke *this, that, these, those.*

Numeral: These serve both as cardinal and as ordinal. 1. ikt, 2. mokst, 3. klone, 4. lakit, 5. kwinnum, 6. taghum, 7. sinamokst, 8. stotekin, 9. kweest, 10. tahtlum, 11. tahtlum pe ikt, 12. tahtlum pe mokst, 20. mokst tahtlum, 21. mokst tahtlum pe ikt, 30. klone tahtlum, 100. tahtlum tukamonuk, 900. kweest tukamonuk, 1000 tahtlum tukamonuk. 1945 would be written: Tahtlum tukamonuk, kweest tuka monuk, pe lakit tahtlum pe kwinnim. *One thousand, nine hundred, and four tens and five.*

Distributive: konaway *each, every. Either* and *neither* are translated by compounds: Klonas halo okoke pepah, klonas halo huloima papeh [*Perhaps not this book, perhaps not another book*] *neither book.* Klonas okoke man, klonas okoke [*Perhaps this man, perhaps that*] *either man.*

kloshe *good*	kimtah kloshe *worse*	delate kimtah kloshe [very less good] *worst*
skookum *strong*	kimtah skookum [less strong] *less strong*	delate kimtah skookum [very less strong] *least strong*
sitkum *half*	elip sitkum *more than half* tenas sitkum *less than half*	

I am told that a corrupt method of comparison has been in use in the Jargon as it is spoken in British Columbia:

Positive	Comparative	Superlative
kloshe *good*	{mo' kloshe / delate kloshe} *better*	elip kloshe *best*
skookum *strong*	{tenas / halo} skookum, *less strong*	delate {tenas / halo} skookum *the least strong*

There is no Definite Article. John yaka kopa house [*John he in house*] *John is in the house.* The Indefinite Article is marked by ikt *one*

Adverbs:

Of Time—alta *now*, ahnkuttie *formerly*, alki *soon*, kwanesum *always*. The first three of these are commonly used in forming tenses.

Of Place—yukwa *here*, yahwa *there.*

Of Manner—hyak *fast*, klahwah *slowly.*

Of Degree—Hyas *very*, delate *really, very*, elip *first.*

Interrogative—kah? *where?*, kahta? *why?* kunsih? *how much?.*

Conjunctive—kah *where*, kahta *why.*

Negative particle: Wake besides Halo *No, none, not.*

The Nootkan term wake (Jewitt spells it wik; Clarke, waket) is much the older of the two; but halo, of unknown origin, seems gradually to be supplanting it. The terms are identical in meaning, although wake is perhaps not so emphatic as halo.

Yahwa tillikums wake klahowyum *There (the) people (are) not poor,*

Wake sick tumtum, halo till; *(Have) no sorrow, (are) not tired;*

Halo mimoluse, wake mesachie, *(They do) not die, (are) not wicked,*

Wake polaklie, halo cole. *(There is) no darkness, no cold.*

Conjunctions: Pe (from the French puis) now translates *and;* although formerly commonly used for both *and* and *but*, its use in the second meaning is today much rarer.

Prepositions: The all-important preposition in the Jargon is kopa, which has a variety of meanings, the particular significance in each case to be determined largely by the context. Some of its common meanings are: *in, on, into, to, from, with, towards, during.* Keekwullie *below*, kimtah *after*, kunamoxt *beside*, are other common prepositions. Of the prepositional phrases, kopa saghalie *above* is one of the most common.

Interjections: These are, in the main, localisms. The exact type of use made of grunts and other wordless expressions of thought depends largely on the locality from which the speaker comes. W. S. Phillips,[15] discussing the Interjections in the Jargon, writes very specifically about the different meanings which can be conveyed by ugh, a-a-a-h, a-a-a-nah, and a-a-a-e, all of which sounds are apparently used in the localities with which he is familiar. He does not, however, mention the expression ah-nah-nah which was a common expression of indifference on parts of the B.C. coast (at Alert Bay, for example).

[15] W. S. Phillips, The Chinook Book, Seattle, 1915, p. 102.

SOME FISH NAMES OF INDIAN ORIGIN

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1. Adsihendo, Assihendo, Otschiontonas, Namaycush
2. Beijupirá, Bijupirá
3. Biajaiba
4. Choupique, Choupiquel
5. Cibí, Sibí
6. Dajao, Dahaos
7. Guarapucú, Guarapicú
8. Jayao, Jallao, Ayállou, Yáoua
9. Matajuelo, Matejuelo, Mataoullou, Matawale
10. Ouatalibi, Ouatilibi, Ouatêlibi, Guatívere, Guatíbere
11. Patassa
12. Poraquê, Puraqué, Piraqué, Poraqué, Puraqué, Puraquê
13. Sacalait, Sacalot, Sakale, Sakli
14. Sesí, Sisi
15. Timucu, Timucú, Timuçú

1. Adsihendo, m. (Cristivomer namaycush Walbaum). In the Relation des Jésuites, Ed. Thwaites, XLII, 295, the suggestion is made that the name Poissons dorés probably indicates the Common Yellow or American Perch (Perca flavescens Mitchill). It has been established, however, that the poisson doré of the Jesuits and other early French travelers in Canada is the Wall-Eyed Pike (Stizostedion vitreum Mitchill).

H. Lalemant, describing the fishes of the St. Lawrence River in 1633, mentions many varieties, among which he includes "le poisson doré, d'un goust exquis; le poisson dit du Bord-de-l'Eau, encore meilleur," Rel. des Jésuites, XLVIII, 173, 174. The novel expression "le poisson dit du Bord-de-l'Eau" has been interpreted in two different ways. The translator of Lalemant's text renders the fish name by "The fish of the water's edge." In 1637, however, Le Jeune refers to the same fish in the words "un Atsihiendo, un poisson qu'ils appellent du bord de l'eau"; and this time the translator, wholly misunderstanding the French text, gives as the English equivalent "a fish they decoy from the edge of the water." Rel. des Jésuites, XIII, 262, 263.

Sagard applies the Huron name Assihendo to "un poisson gros comme les plus grandes moluës, mais beaucoup meilleur," Le Grand Voyage du Pays des Hurons, Paris, 1632; Nouvelle éd., Paris, 1865, 1, 176. On page 177 of the same volume he refers to a "quantité de bons poissons; comme Assihendos, Truites, Esturgeons . . ."; and on page 223 he again speaks of L'Assihendo, at the same time recording the Huron names of several other fishes. Finally, Sagard defines Adsihendo as "Leur gros poisson du Lac," in the Dictionnaire de la Langue Huronne, at the end of the second volume of Le Grand Voyage.

Zeisberger's Indian Dictionary, Cambridge, 1887, p. 163, gives Onondaga Otschiontonas as the correspondent of "salmon, German Lachs."

Sagard's term "Leur gros poisson du Lac" points to the Namaycush, a large salmon-trout, often called Lake Trout, found in Labrador, Alaska, British Columbia, Canada, and the northern lakes of the United States. Several years ago L. A. Richard, Deputy Minister of the Department of Fish and Game in the Province of Quebec, wrote me a letter, from which I quote his comment on the Huron name of the fish: "If *Adsihendo* means 'leur gros poisson du lac,' it refers without doubt to the *Cristivomer namaycush*, which we call indifferently in this province *Touladi* —a Montaignais word, I think—, *Truite Grise*, or *Truite de Lac*."

I see now that Cuoq has a comment on the application of the name poisson doré. In his Lexique de la Langue Algonquine,

Montréal, 1886, p. 295, he writes: "OKA . . . poisson vulgairement appelé *poisson doré*, ou simplement *doré*. Les Anglais du Canada le nomment *pickerel*."

2. Beijupirá or Bijupirá, m. (Rachycentron canadum L.). A fish found in warm seas; ranging along the Atlantic coast as far north as Cape Cod.

The Brazilian-Portuguese name is derived from Tupi-Guarani beijú or mbejú *a manioc cake* and pirá *fish*. Naturally, the implication is that the bijupirá is an excellent food fish. Montoya defines mbeîu in the words *tortas de mandioca*, Tesoro de la Lengua Guarani, Madrid, 1639, p. 214. Soares de Sousa writes: "Beijupirá é o estimado peixe do Brasil, tamanho e da feiçao do solho, e pardo na côr. . . ."—Tratado Descriptivo do Brasil em 1587, 3a. Ed., S. Paulo, 1938, p. 334.

The bijupirá is also called Sergeant Fish, Crab Eater, and Cobia.

3. Biajaiba, f. (Neomaenis synagris L.). An important food fish of the family Lutianidae, ranging from the Florida Keys to Colon and Brazil. Cuban Spanish Biajaiba is probably from Island Arawak. Other names for this fish are Lane Snapper, Redtail Snapper, and Puerto Rican Sp. Rayado *striped*.

Mark Catesby conferred the name Lane Snapper on this fish in 1743, because the yellow stripes on its sides reminded him of the lanes or narrow roads with which he had become familiar in America. In the Natural History of Carolina, Florida, and the Bahama Islands (revised by Edwards, London, 1771, 11, 17) Catesby describes the fish in part as follows: "The whole body was covered with purple scales, darkest on the back, and paler on the belly, with stripes of yellow extending from the nose to the tail." The illustration facing page 17 in the Edwards edition would of itself be sufficient to justify Catesby's choice of the term lane for this species of snapper. American dictionaries have failed to note the reason for the application of the name.

4. Choupique, m. (Amia calva L.). A powerful fish, the sole representative of the family Amiidae. It inhabits the Great Lakes and streams of the Mississippi Valley from Minnesota to Virginia, Florida, and Texas.

Louisiana-French Choupique is derived from Choctaw Shupik *mudfish*. The name has been widely adopted, with various modifications, by those whose mother-tongue is not French. But I have never heard Choupiquel, the form recorded for Louisiana by Ray Schrenkeisen, Field Book of Fresh-Water Fishes of North America, New York, 1938, p. 21. Perhaps Choupiquel rests on erroneous information.

5. Cibí, m. (Caranx bartholomaei Cuv. & Val.; also Caranx ruber Bloch). Fishes of the family Carangidae, ranging from West Indian seas north to Florida and the Carolinas. The first fish is known as Yellow Jack; the second as Green Jack. In West Indian Spanish the Yellow Jack is called Cibí Amarillo; the Green Jack, Cibí and Carbonero.

Malaret, who uses the spelling Sibí, takes the name to be of West Indian origin. See his Dicc. de Americanismos, p. 463. He may be right. I recall, however, that Montoya translates cibí by *paxaro pardo conocido*, in Tesoro de la Lengua Guaraní, 1639, p. 115; and as bird names are often conferred on fishes, Cuban Spanish Sibí may have come ultimately from Guarani. Compare, for instance, such names as batfish, darter, parrot fish, peacock flounder, sea raven, sea robin, and snipefish.

Puerto Rican Sp. Carbonero *Charcoal burner*, was inspired by the dusky markings on the caudal and dorsal fins of the Green Jack.

6. Dajao, m. (Dajaus monticola Bancroft). A species of mullet, abundant in

the fresh waters of the West Indies and eastern Mexico.

Las Casas was familiar with this fish, which he describes in part as follows: "Otros que se llaman *dahaos*, la media luenga, son pequeños como pequeños albures, menos que un jeme," Historia de las Indias, III, 421.

Dajao is no doubt from Island Arawak. Two other common names of this fish are Mountain Mullet and Sp. Trucha *trout*.

7. Guarapucú, m. (Scomberomorus cavalla Cuv.). A fine marine fish, of the family Scombridae, ranging from Cape Cod to Brazil and Africa.

Marcgrave records the native name of this fish as Guarapucú, a derivative of Tupian Guará *fish* and Pucú *big*. See the Portuguese translation of Marcgrave's work, História Natural do Brasil, S. Paulo, 1942, p. 178. Soares de Sousa, less accurately than Marcgrave, spells the name guarapicú: "Guarapicú são uns peixes a que os Portuguezes chamam cavallas . . .", Tratado Descriptivo do Brasil em 1587, S. Paulo, 1938, p. 336.

The Guarapucú is often called Kingfish. Other common names are English Cavalla from Sp. Caballa, Sp. Sierra *sawfish*, and English Cero, an alteration of Sierra.

8. Jayao, m. (Haemulon album Cuv. and Val.). A food fish of the grunter family, ranging from the Florida Keys to the West Indies and Brazil.

A. Malaret gives Jayao as the native West Indian name of a fish, synonymous with Sp. Vieja *Oldwife*, Dicc. de Americanismos, San Juan, 1931, p. 303. Compare A. Zayas, Lexicografía Antillana, Habana, 1914, p. 327. Jayao, or the Anglicized Jallao, is probably of Carib origin. R. Breton records somewhat similar names for Island Carib: Ayállou and Yáoua, Dict. Car.-Français, 1665, p. 69—ed. Platzmann, Leipzig, 1892. Breton says that the fish Ayállou is as flat as "une lune." The moon-fish of tropical seas belongs to the genus Selene Lacépède. The Yáoua, to quote Breton's definition, is the "Capitaine, fort beau, & bon poisson," a fish which is still called Capitaine or Capitán (Sp.). Americans know it as the Hog-fish (Lachnolaimus maximus Walbaum) the term referring to the appearance of the fish's head. Another name for the Hog-fish is West Indian Spanish Pez Perro.

The Jayao is also called Margaret Grunt and Margate Fish. For the source of these names consult Evermann and Marsh, The Fishes of Porto Rico, Washington, 1902, p. 186.

9. Matajuelo or Matejuelo, m. (Holocentrus ascensionis Osbeck). A fish found off the coasts of Florida and the West Indies; also called Soldado (Sp.), Squirrel-fish, and Welshman.

Sp. Matajuelo blanco is applied to Malacanthus plumieri Bloch, a member of the family Malacanthidae. It inhabits West Indian seas.

Sp. Matajuelo Real is one of the names bestowed in Puerto Rico on Elops saurus L., a fish belonging to the tarpon family, Elopidae, and widely distributed in tropical seas. Other names of this fish are Sp. Piojo, Sp. Lisa Francesa, Chiro, a corruption of Sp. Chivo, Big-eyed Herring, etc.

Sp. Matajuelo, first used by Parra in 1787, is apparently an adaptation of Island-Carib Mataoullou, a name designating a fish with "le nez bien affilé, c'est un espèce de Brochet de mer," according to Breton, Dict. Car.-Fr., p. 70. The head of Elops saurus is indeed sharply pointed. Mataoulou and Matajuelo are suggestive of Matawale, a Trio term for *fish*, as noted by C. H. de Goeje, Études Linguistiques Caraïbes, Amsterdam, 1909, p. 301.

10. Ouatalibi or Ouatilibi, m. (Cephalopholis fulvus ruber Bloch & Schneider). A small food fish of the family Epinephelidae; abundant in the Atlantic from the West

Indies to Brazil. It is also called Red Guativere.

Cuvier and Valenciennes bestowed the technical name Serranus ouatalibi on this fish in 1828. Ouatalibi is a slight alteration of Island Carib Ouatêlibi, which Breton defines as *une tanche de mer*, Dict. Caraïbe-Français, p. 69. The first element in this name seems to reflect the Carib word for *fish*, variously spelled oto, aoto, and ouatto. Compare Island Carib Ouátabouirhaeu, a species of red fish with large eyes, and Ouatánalou *poisson volant*. See Breton, pp. 68, 408.

Ouatalibi Espagnol is one of the names that have been given to another West Indian sea fish (Gonioplectrus hispanus Cuv. & Val.). As for the name Guativere, it was introduced by Antonio de la Parra, in his Descripción de Diferentes Piezas de Historia Natural . . ., Habana, 1787, Pl. 5, Fig. 1. Guativere, m., now written Guatíbere in Cuban Spanish, is of Island Arawak origin.

11. Patassa, m. A generic name for various species of sunfishes, family Centrarchidae, which abound in the fresh waters of Louisiana. Louisiana-French Patassa [pata'sa] is derived from Choctaw náni *fish* and patássa *flat*. The etymology of the name is given by Le Page du Pratz, Histoire de la Louisiane, Paris, 1758, II, 156; and the plural les patassas is cited by Baudry des Lozières, Voyage à la Louisiane, Paris, 1802, p. 175.

12. Poraquê or Puraqué, m. (Gymnotus electricus L.). An immense electric eel; an inhabitant of the rivers of Brazil, Venezuela, and the Guianas. It is capable of transmitting a severe electric shock.

Brazilian-Portuguese Poraquê and American Spanish Puraquê are of Tupian origin. Tupi has Piraqué, Poraqué, and Puraqué. Puraqué has made its way from Amer. Spanish into English.

Other common name for the electric eel are numbfish, Amer. Sp. temblador or tremblador, and Pg. peixe-elétrico.

Magalhães has noted the occurrence of two species of this eel in the Amazon region: the one called poraqué-pixúna and the other poraqué piránga (pitánga). In Tupi pixúna signifies *black;* piránga or pitánga *red*. See A. Couto de Magalhães, Monographia Brazileira de Peixes Fluviaes, S. Paulo, 1931, p. 187.

Marcgrave applied the term puraquê to a species of ray—a guitarfish or fiddler-fish of the family Rhinobatidae. See the Portuguese edition of Marcgrave's Historia . . ., S. Paulo, 1942, p. 151. The name guitarfish or fiddler-fish refers to the shape of the fish. Compare Pg. peixe viola and peixe guitarra.

13. Sacalait, m. (Pomoxis annularis Rafinesque). A fine game fish, a member of the family Centrarchidae; abundant from the Great Lakes south to Texas and west to Kansas and Nebraska. It has been introduced into some of the fresh waters of the Pacific coast.

The sacalait is known by many other names: Crappie, Goggle-Eye, Goldring, Papermouth, Silver Perch, etc. For these and similar names, compare G. B. Goode, American Fishes, Boston, 1903, p. 71.

The name Sacalait is sometimes given to a Killifish (Fundulus similis Baird and Girard) of the coastal waters of the Gulf States; to the Warmouth (Chaenobrittus gulosus Cuv. and Val.), a species of sunfish found from the Great Lakes to Florida and Texas; and to the Round Sunfish (Centrarchus macropterus Lacépède) which ranges as far north as southern Illinois and southward from Virginia to Florida.

The French inhabitants of Louisiana interpret sacalait as the equivalent of sac à lait, under the impression that the name was inspired by the white flesh or the silvery-olive colors of the fish. Early spellings of the name refute this analysis. Vaugine de Nuisement mentions such fishes as the

"sacalot, brochet, carpe, anguille, et quantité d'autres inconnus," in the Journal of his residence in the Illinois country (1752–1756), Romance Language Series, No. 2, Louisiana State University Press, 1939, p. 66. Bernard Romans records a Sakale lagoon on the map drawn in 1774 for his Natural History of East and West Florida, New York, 1775. Jean Filhiol uses the plural Sacalés in the manuscript of his Idée du Ouachita en 1786, p. 14. His manuscript is in the Library of Congress. Baudry des Lozières, remarking that it would be a considerable task to describe the fishes of the lakes, rivers, and bayous of Louisiana, nevertheless cites many fish names, as la carpe, le cabot, le tétard, le goujon, le casburgo, la plis, and les sacalés, in his Voyage à la Louisiane . . . 1794–1798, Paris, 1802, p. 175.

It must now be manifest that early French travelers in Louisiana were unaware of the origin of the name. Nor have modern lexicographers been able to solve the puzzle. The New English Dictionary, however, was on the right trail when it suggested, under sacalait (1880), an etymologizing perversion of some Indian word. The source of Louisiana-French sacalait is Choctaw Sakli *trout*. The Choctaw of Bayou Lacombe, Louisiana, pronounce final [i] like mid-front [e], according to my recollection.

The spelling pronunciation of sacalait with final [t], as authorized in the New International Dictionary, is either very rare or wholly unknown in Louisiana.

14. Sesí, m. (Anisotremus virginicus L.). A yellow-striped food fish of the grunter family; the pork fish, so called because of the grunting sounds that it makes. It ranges the seas between Florida and Brazil.

West Indian Sp. sesí is probably an adaptation of an Arawak name—either Island or Continental. In Maropa and Sapibokona, two languages belonging to the Takana linguistic group, a fish is called *Sisi*. The vocabulary of this group is chiefly Arawakan. Cf. G. de Crequi-Montfort et P. Rivet, "La Famille Linguistique Takana suite," JSAP, N. S. (1922), XIV, 177; ibid., (1923), XV, 148.

In Cuba and Puerto Rico the name Sesí or Sesí de lo Alto is also conferred on the Blackfin Snapper (Neomaenis buccanelle Cuv. & Val.), a West Indian marine fish belonging to the family Lutianidae. Sp. de lo alto is the equivalent of *deep-sea*. Other names for this fish are Martinique Boucanelle and Oreille Noire.

Among the fishermen of Puerto Rico the pork fish is known as sisi, according to Evermann and Marsh, The Fishes of Porto Rico, p. 196.

15. Timucu, m. (Tylosurus timucu Walbaum). A marine fish of the family Belonidae found from the Florida keys to Brazil. Brazilian-Portuguese Timucú should be Timuçú; for the source of the name is Tupi-Guarani tim *nose* and ussú *big*. G. Soares de Sousa knew and indicated the correct pronunciation, Tratado Descriptivo do Brasil em 1587—Comentários de F. A. Varnhagem, 3a. Ed., S. Paulo, 1938, p. 339: "Chamam os indios ao peixe agulha timuçu." Marcgrave's Timucu may be responsible for the vogue of the current spelling. See the magnificent Portuguese edition and translation of Marcgrave's well-known Historia . . . (1648): História Natural do Brasil, S. Paulo, 1942, p. 168. Here, too, one finds a reason for the adoption of the names Timucu and Peixe Agulha. In the words of Marcgrave, ibid., p. 168, this fish "Tem um rostro ósseo, de três ou quatro dedos de comprimento, pontudo, guarnecido de um e outro lado por dentes mínimos."

NAVAHO PHONOLOGY AND HOIJER'S ANALYSIS

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0. General evaluation
1. The phonemes
  1.1. Allophonic patterning
  1.2. Limitations of distribution
  1.3. Juncture phonemes
  1.4. Reduction of phonemic stock
  1.5. Morphophonemic interrelations
2. Morphophonemic alternations

0. Linguists who are interested in American Indian languages owe a debt of gratitude to Hoijer for organizing and presenting Sapir's copious Navaho material, with his own additions.[1] The presentation is carefully done, with useful arrangements of the information on allophones, phonemic clusters, and morphophonemics. Considerable attention is paid to the phonetic values of the positional variants, and to individual peculiarities of distribution among the phonemes. On p. 15–7, for example, Hoijer gives a very neat treatment of the x, h, x^w, h^w phonemes. He lists 10 sets of environments in which various allophones or freely varying pairs of allophones are heard, and then shows by a simple chart that they can all be grouped into the four phonemes mentioned above.[2]

Particularly noteworthy is the great amount of space devoted to morphophonemics (pp. 31–59), a welcome addition to the small list of publications on the subject.

The manner of talking about the evidence is direct and clear. In some places there appears a type of statement which is ultimately deductive in character; and while no brief need be held for one type of treatment rather than another, it is preferable to maintain consistency of form of statement in any one exposition Thus where Hoijer says: "Since the point of syllabic division for a short-voweled open syllable lies in the following consonant rather than immediately before it, all consonants following such syllables are mechanically lengthened.", it might have been more in keeping to write: "Since all consonants following short-voweled open syllables are mechanically lengthened, we shall say that the point of syllabic division for such syllables lies in the following consonant rather than immediately before it." The observable is, of course, the consonant length; 'syllabic division' is just a construct, a name given to this and other observables.

Sapir's Navaho analysis was even more interesting in the morphology than in the phonology. It is therefore to be hoped that Hoijer will soon give us a detailed presentation of Navaho morphology as a companion volume to the present excellent publication.

1. The phonemes. Hoijer gives the following table of Navaho phonemes:

[1] Harry Hoijer, Navaho Phonology, University of New Mexico Publications in Anthropology 1. Pp. 59. The University of New Mexico Press, Albuquerque, 1945. The only misprint which merits correction is cí- and cò- on p. 42 (§30.1), which is a misprint for Cí- and Cò-.

[2] Only 9 of these environments are numbered, but the second of them (§13b) contains x and h varying freely in prefinal syllables, and only x in stem syllables. It is therefore necessary to distinguish between these two: x and h are free variants of one allophone in a stated environment, while x alone is another allophone in another phonemic environment—after the stem juncture. Both of these allophones are members of the phoneme h. This is, of course, a case of partial overlapping, but it yields the simplest phonemic statement permitted by the data, and one which meets the practical requirements of phonemics (i.e. given the phoneme in an environment, we know what sound it represents; and given the sound in an environment, we know what phoneme it represents).

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plementary to the other, and must hence be phonemic. If every occurrence of Hoijer's syllable boundary is accompanied by special allophones of the neighboring phonemes, then this boundary is always a phonemic juncture.

The juncture preceding the stem syllable must apparently be considered a phonemic juncture, in at least some cases. In §13b a free variation which occurs in prefinal syllables does not occur after stem syllable juncture. This and similar special stem-syllable allophones of other phonemes make it necessary to consider the juncture preceding the stem syllable as a new phoneme: e.g. the inorganic h of p. 39–40 is inorganic only if the juncture is phonemic. There are also many morphophonemic alternations peculiar to the stem; this would require that the stem juncture be also recognized morphophonemically.

There are slight differences in the consonant clusters before and after word juncture as against those before and after syllable juncture. More important is the fact that the assimilation of the c series and the č series takes place only within a word, but throughout the word. If the component ˇ is extracted from the č series, its domain will be from the word juncture preceding it to the word juncture following it, and this word juncture must then be phonemic. The stretch between word junctures would have certain morphological properties too, and can perhaps be marked by the occurrence of other phonemes (e.g. the stem juncture) more generally than merely by the occurrence of the ˇ component.

1.4. Reduction of the phonemic stock. The limitations of distribution of various phonemes can be used to reduce the number of independent phonemes in Navaho without complicating the interrelations among them.[4a]

Among the phonemes ʒ, c, c', s, z and j, č, č', š, ž there is a limitation of distribution (p. 11–4): no word occurs which contains some phoneme of the first set and also some phoneme of the second set. For each word, therefore, which contains any of these phonemes, it suffices to mark just once for the whole word whether all the phonemes of this group are of the first set or of the second. We can use the mark ˇ for the second set; aside from this, then, the two sets will be identical. The phonemic writing would be ˇ sà·z *joint* (for šà·ž) as against zàs *snow*. The five phonemes of the second set are then dropped, and the phonemic component ˇ added.[5]

The phoneme m is in general rare. It never occurs as syllable final, although n does. The nasal vowels a^n, $a{\cdot}^n$, etc., cannot be analyzed as vowel plus n, because they contrast with Vn (tìn *ice*, -tí^n *a living object lies*, -tí *hurt*); but they can be analyzed as vowel plus m, since that sequence does not otherwise occur.[6] It is thus possible to drop the eight nasalized vowel phonemes: a^n is phonemically to be written am. This hardly requires any special statement about the distribution of m or of the vowels; on the contrary, it makes the distribution of m

[4a] In considering here the reduction of the phonemic stock, the purpose is not to have fewer phonemes, come what may, but rather to have a simpler statement of the phonetic facts about the language. Reducing the number of phonemes, or the complexity of allophonic variation within each phoneme, often aids in this direction. Eliminating the limitations of distribution upon each phoneme is yet a greater aid. Often, these three objectives clash with one another. However, when we use the limitations of distribution of phonemes as a basis for reducing their number, we serve two purposes simultaneously. An example of this is seen in the present section 1.4.

[5] The direction of assimilation is morphophonemic, since it can be recognized only if we compare other forms of the morphemes involved in the word. See 2. below.

[6] Morphophonemically, it would be more convenient to analyze nasalized vowel as vowel plus n in some form, since nasalized vowel is sometimes replaced by vowel plus n: ʔà-yá-ní *he who eats* from a base form ʔà-yá^n + -í. However, this is phonemically impossible.

more like that of n and most of the other continuants.[7]

It is further possible to drop the length phoneme, since the distribution of V· does not seem to differ materially from that of VV (when the two vowels are not identical). We need merely say that V· is to be analyzed phonemically as VV, constituting the special case when the two vowels are identical. This is possible because there is no aa as against a·, and because clusters of non-identical vowels such as ao do occur.[8] V· and VV are similar also in respect to the tones: whereas single vowels have either the low tone or the high, V· and VV may also have the rising and falling tones (p. 30). We thus drop the four long vowels and remove the restriction on vowel clusters that the component vowels be non-identical.[9]

[7] The new phoneme m will now occur like ʔ before C plus word juncture (p. 27, except that ʔ occurred only in the word-final cluster ʔš, while m would occur in many word-final clusters: sè·ms for sè·ⁿs *wart*, cl·mh for cl·ⁿh *exposed*, etc.). It will also occur like ʔ and n before C-. New types of cluster will be created by writing xá-dâ·mʔš *since when?* and dí·mʔs-kám *four days* (p. 24–5), since clusters of three consonants in one syllable do not otherwise occur; the new element of distribution is that m would be the only consonant occurring before CC (in particular, ʔC) before syllable or word juncture. A more serious difficulty is the fact that clusters like aⁿi occur by the side of clusters like ai (p. 28). If the former are written ami, the vowel cluster would be broken up, and contrast with V-mV (with consonant m) may be avoided only by dint of the syllable juncture. This would therefore be an undesirable writing, but may be avoided by writing aim for aⁿi, since clusters like aiⁿ do not seem to occur; this would conform to long nasalized vowels such as a·ⁿ, which would be written aam (for VV instead of V· see below). Another difficulty, of a morphophonemic nature, is the fact that vowel assimilations include nasalization: bòⁿ-zó·ⁿz *stinger* from a base form bì-zó·ⁿz (p. 29). If the new phonemic form is bòm-zóómz, we have to say that not only the vowel but also the following m, if any, is assimilated.

[8] Clusters of long vowels, or of long and short ones, which we would now call clusters of three and four vowels, always contain syllable juncture, so that not more than two vowels (or one long vowel) are in one syllable (p. 28).

A syllabic n also occurs in Navaho, written as n plus tone (ǹ or ń). Its distribution is seen to be exactly that of CV (p. 11, 28). It would be most convenient, both distributionally and morphophonemically (because ń occurs as optional alternant of ní, etc.), to analyze syllabic n as consisting actually of the consonant n plus the syllabic. The Navaho syllabic should then be considered to be not the vowels but the tonemes. The vowels then become merely quality indications occurring simultaneously with the tonemes; and we would say that after n the quality restricting phonemes sometimes fail to occur with the toneme (i.e. we have the syllabic without specific vowel color).

We may also reduce the number of tonemes from four to two without complicating the statement of their distribution. Since the rising and falling tones occur only on VV (including V· which are now analyzed as a sequence of two like vowels), we may analyze ǎi as àí, ê· as éè, and so on, while ái becomes áí, and à· becomes àà. Whereas previously the second vowels of clusters had no tone, now no vowel occurs but with a toneme.

Since between every two junctures there occur two tonemes if VV occurs and one toneme otherwise, the question arises whether junctures and tonemes cannot be made interdependent. This requires not only that we be able to determine the occurrence of one from the occurrence of the other, but that we be also able to determine the point of occurrence of one from the point of occurrence of the other. In order to determine the exact point of occurrence of one in respect to the other, it would be necessary to check all the consonant clusters to make sure that it is possible to tell from the number and identity of the consonants where the point of juncture occurs. The material presented by Hoijer makes this seem possible. It also seems possible to

[9] This will be found to simplify some of the morphophonemic statements of vowel contraction (p. 48–55).

eliminate one of the two tonemes, since absence of toneme over a vowel could be interpreted phonemically: á could be interpreted as á, and a as à. Such non-writing of one of the two remaining tonemes would cause confusion only in the syllabic n, and there only if the ordinary syllable juncture is also not written. For here we would have three values to indicate, ń, ǹ, and n. If ˋ is being eliminated as a mark, ǹ could be written by n plus some low-toned vowel cluster that does not otherwise occur.

The remaining phonemic question concerns the prosodic patterns (intonation contours, emphases, etc.) of phrase, utterance, or other lengths. Hoijer says (p. 7): "Though the speakers of Navaho, like those of any other speech community, vary the prosodic patterns of their utterances for socially effective gesture-like purposes, there appear to be no phonemically distinctive accentual phonemes belonging to the work, the phrase, or the sentence which stand over and above the accentual patterns formed by the succession of syllables constituting the utterance." Since the prosodic patterns could be socially effective only if they are conventional, it would seem to follow that there are some prosodic morphemes, which presumably can be analyzed as consisting of contour phonemes—unless they are indeed as hard to analyze and to reduce to constituent parts as gestures are. The investigation of the morphemic and if possible phonemic constituents of prosodic patterns, and of the more gesture-like parts of communication in general, is one of the next problems of linguistics. It would be particularly interesting to see how this works out in a tone language like Navaho, and we may hope that Hoijer's further work may enable him to state what regularities occur.

The limitations of distribution thus permit us to reconsider the phonemic allocation of certain allophones (e.g. assigning length to the several vowels, or nasalization to m). Such reallocations are convenient for descriptive linguistics when the new phonemes have less complicated limitations of distribution than did the old. Reducing the number of phonemes at the cost of complicating their distributions would not be desirable in most cases.

1.5. Morphophonemic interrelations. After a distributionally irreducible number of phonemes is obtained, so that each phoneme contrasts which each other in every position,[10] it is still possible to reduce the number of elements by considering each phoneme to be composed of more than one simultaneous component: e.g. t' may be analyzed as not one phoneme but two simultaneous phonemes (or phonemic components) t plus ?. This break-down may be used to simplify our statements of morphonemic alternations in the language. Let us suppose that ata contrasts with at'a, but that some morphemes (say, t'a) contain the t' whenever they occur, while in cases of a morpheme ending in t (say, at) coming before a morpheme beginning with ? (say, ?a), the two morphemes together are pronounced with a single t' between them (at'a, instead of at + ? a). Then although this t' is a single phoneme contrasting with t in ata (and let us say also with the sequence t? in at?a), it is the morphophonemic resultant of t plus ?. It would be convenient if we could describe the t' as being in general composed of these two parts (t and ? or ?), for then instead of saying that when a morpheme ending in t is followed by one beginning with ? these two phonemes are replaced by a third phoneme t', we can say that when a morpheme ending in t is followed by one beginning with ? the two phonemes occur simultaneously (t + ? above it).

The Navaho material shows that a large part of the many morphophonemic alternations could be thus more simply expressed if the phonemes are broken up into simultaneous components along certain lines. Some of these have already been broken up

[10] More exactly, in every position which is sufficiently regular for us to consider.

on distributional grounds. Thus -t'a *to feather an arrow* is replaced by -t'aⁿ in the presence of perfective affixes (p. 34). Since nasalized aⁿ is now not a separate phoneme but merely the sequence of a plus m, we do not have to say that a is replaced by aⁿ, but that perfective affixes include the phoneme m in these cases. Similarly, the breaking up of the rising and falling tones into sequences of ˊ and ˋ, and writing out the tones of vowel clusters (àì instead of ài), eliminates many morphophonemic statements, e.g. the first two vowels in the base form ná-ìid-ł- are changed if we write nâil- but not if we write náìl- (p. 50). And the suffix -ɨ *he who* (p. 40) seems to suffer a trivial phonemic change to i when it follows nà·-gé *is carried about*, if the writing is nà·-géi, but suffers no change if we write ná·-géɨ. The writing VV instead of V· also eliminates some morphophonemic statements of a trivial kind: if we write ʔàs-ʒáníšš instead of ʔàs-ʒá-nɨ́·š for *Is it the woman?* (p. 32) we find that the constituent morphemes ʔàs-ʒán + -ɨ + -íš suffer no phonemic change (except for the placing of the -). In other cases, however, the morphophonemic statements would be simpler if we were writing V· instead of VV, as for example in the positions in which all vowels are lengthened or shortened: dé *horn*, bì-dè·ʔ *his horn* and k'à·ʔ *arrow*, bì-k'àʔ *his arrow* both show change of length, whereas the phonemic analysis bì-dèèʔ and k'ààʔ would require a more complicated statement of the alternation ("repetition of the vowel"). If many occurrences of the syllable juncture can be made automatic, additional morphophonemic statements would be avoided, since many of the alternations described by Hoijer consist of dropping or moving the juncture.

The glottal stop ʔ figures frequently in the morphophonemic statements, alternating with zero (tó *water*, bì-tòʔ *his water*), moving across juncture, and combining with stops (usually the voiced stops) to make glottalized stops: dì·-t'à·š *we two start off* contains the base morphemes di- + ì·d- + ʔà·š (p. 31).[11] · ʔ also alternates with h: -bà·ʔ, -bà·h *to go to war*.

The phoneme h is also frequent in morphophonemic alternations. By itself it alternates with ʔ, y, d, or zero. Before voiceless continuants it often drops: dà-sì-tíⁿ *he lies on top* from the base morphemes dàh-sì-tíⁿ (p. 41). With voiced continuants it coalesces to form voiceless continuants: dò-sé·h *you two belch* from the base morphemes dòh-zé·h (p. 47–8, 51.2). By the side of these cases in which h-ł is replaced by ł, h-z by s, etc., there are morphemes in which voiced and voiceless phonemes alternate without the presence of h: gìz, -gìs *to wash*, etc. (p. 35). There are also many cases of assimilation in respect to voicelessness, e.g. base-form šγ to phonemic šx, złγ to sx (p. 43–7). It is therefore convenient to consider ł as being simultaneous h+l, s as simultaneous h+z, etc., and to say that where base-form h-z is replaced by s it is merely that the two neighboring phonemes occur simultaneously; where z alternates with s, it is the addition of the simultaneous h component in one variant of the morpheme; and where base-form šγ is replaced by šx, the simultaneous h component of the first phoneme extends over the cluster.[12]

The phoneme d enters into morphophonemic alternations in a rather unexpected manner. Not only does it alternate like ʔ, with h, in the manner in which voiced-voiceless phonemes alternate (-kà·ⁿh,-kà·ⁿd *to sweeten;* -k'à·ⁿh,-k'á·ⁿʔ *to burn;* -gìs,gìz *to wash* p. 34–5), but it also coalesces with various continuants with voicing or stop-making effect (and in the case of m, n, with glottalizing effect, p. 43–6). Base-form ì·d-ł- is replaced by ì·l-, d-m by m', d-n by n', d-z by ʒ, d-l by λ or l (depending at least in part on the kind of juncture), d-γ by g, etc.

The phoneme y also enters into special

[11] Note also the rapid-speech variant of t', n', č', for ʔd, ʔn, ʔj (in one syllable, p. 25).

[12] However, this and the other components do not extend automatically over all clusters.

morphophonemic statements which are difficult to summarize: h-y is replaced by h; d-y by z or d, š-y by s or š, ły by s, etc. Special alternations involve s, z, š, ž, and d, l, ł, and h, γ, y; these are admirably summarized in p. 43–8.

The morphophonemic alternations also give us a basis for grouping many of the phonemes in phonetic series: when l combines with the simultaneous h component, we get not some arbitrary voiceless continuant, but ł; when it combines with the stop-making d we get λ. Similarly h+z yield s, d+z yield ʒ; h+γ yield x, d+γ yield g.

Among the vowels there are fewer morphophonemic alternations of quality, although e· is frequently replaced by i (rarely by a or o, p. 34) and although some contractions are phonetically distant, such as the replacing of base-form Ci-ni by Có- (p. 55; cf. p. 48–55).

On the basis of all the morphophonemic alternations noted here, it is possible to say that the morphophonemic statements for Navaho would be simpler if instead of speaking in terms of the phonemes we spoke in terms of certain phonemic components: m, n, z, l, γ, y, d (a stop-making component), h (a devoicing component), ʔ (a glottalizing component), ˇ (a blade-alveolarizing component extending over a word), a, e, i, o, two or three junctures, and one or two tones. Various simultaneous combinations of these would constitute the phonemes: z by itself would be the phoneme z; d+z would be the phoneme ʒ; h+z would be the phoneme s; h+z+ˇ would be the phoneme š. Only certain simultaneous combinations would occur: e.g. there would be no phoneme composed of d+h+m (there is no p in Navaho), no combination with h+ʔ would occur, and ˇ would occur only with z; and the vowels would never combine simultaneously with any consonant component (since nasalized vowels would be the sequence Vm). Despite the many remaining limitations of occurrence in this reduced phonemic stock, the limitations are fewer than in the larger stock, and many morphophonemic statements are eliminated or simplified (as when base-form d plus z becomes componental d+z instead of phonemic ʒ).

The phonemes $k^{ˇ}$, $h^{ˇ}$, $x^{ˇ}$, $\gamma^{ˇ}$ have been tentatively omitted from the above list. Their rarity, plus the fact that many combinations of the above-listed components do not occur, makes it seem possible that they could be identified as otherwise non-occurring combinations of recognized components or phonemes. This can only be done, however, if at all, on the basis of an exhaustive survey of the positions in which they occur.

Unlike Hoijer's phonetic chart of phonemes presented above, this list of components cannot very well be represented in chart form, since the relations among them are distributional and complicated and cannot be fairly indicated by the geometric properties of the chart.

2. Morphophonemic alternations. There are a considerable number of regular or almost regular alternations, that is alternations for which the conditions are phonemic (or almost completely so: cf. §§20, 26, 29, 30, 31, 33).

Certain sequences of vowels, tones, or consonants are occasionally replaced in rapid speech by somewhat different sequences. These must of course be recognized as morphophonemic alternations, unless one chooses to eliminate rapid speech from the description. Thus Ci-Ca (where the juncture is stem juncture) may be replaced by Ca-Ca, etc. (§§ 17, 20, 21).

The phonemically different forms of one morpheme may be each considered a complementary positional variant of the morpheme. Alternatively and equivalently, base forms can be constructed, whose constituents are not phonemes but morphophonemes, and from which, in each environment, the appropriate variant of the morpheme can be derived by substituting for the morphophonemes the appropriate phonemes (following stated rules). Hoijer constructs such base forms and notes some-

thing of their character. He points out that although phonemically every vowel occurs with one tone or another, there are some base forms whose vowels have no tone (p. 50): these zero tone morphophonemes are replaced by high tonemes when they occur in one syllable with high tonemes, and by low tonemes otherwise. These base forms would also give the direction of assimilation of the ˇ component: for while it is a phonemic fact that ˇ affects all the z-containing phonemes in a word, it is a morphophonemic fact that whether any word contains ˇ or does not is determined by whether the last z-containing phoneme in the base forms from which the word was derived contained the ˇ component.[13]

Each of these base forms is one morpheme, and consists of one syllable or just one consonant, with juncture on either side. The various morphophonemic alternations affecting the syllable juncture result occasionally in the combination of two or more morphemes into one syllable, or the spreading of the phonemes of one morpheme over two syllables (e.g. by moving the final consonant of the morpheme across the syllable juncture into the next syllable). Even in the phonemic form, syllable juncture and morpheme boundary usually come at the same point in the word.

In addition to all the regular or partially regular alternations, there are so many individual replacements that a set of general rules for deriving phonemic forms from base forms, like those devised for Tübatulabal by Swadesh and Voegelin and for Menomini by Bloomfield, seems impossible here. Hoijer does, however, give very handy tables showing the base-form sources for each phoneme (p. 55–9).[14]

Quite a few types of replacement of phoneme for morphophoneme are involved in deriving the morphemic variants from the base forms. These are the dropping or replacing of C or CV, the dropping or adding of a component (e.g. voicelessness), the changing of tone, and the dropping or moving of syllable juncture.

[13] In the base forms, the ˇ does not extend, but is present or absent with each morphophoneme containing the z component. The extension of the ˇ over the whole word, which expresses the phonetic assimilation, occurs only in the phonemic forms derived from the bases.

[14] In such derivations, as in morphophonemic statements in general, it is necessary to state the environment exactly. A slip in this regard occurs on p. 43, where the table shows l·d plus d yielding l·, just as l·d plus ł yields l·l. The actual form is bł·h-nł·-t'à·h *we two put our heads into it* from the base bł·h-ni-l·d-d-ʔà·h: hence the alternation is not phonemic l· from morphophonemic base l·d-d, but phonemic l·-t' from morphophonemic base l·d-d-ʔ.

REVIEWS

DICCIONARIO TOBA. By Tomás Tebboth. Universidad Nacional de Tucumán. Revista del Instituto de Antropología, Vol. 3, No. 2, pp. 30–222. Universidad Nacional de Tucumán, 1943. [Argentina]

This dictionary, according to the preface, is designed to serve two purposes: (1) to acquaint those interested in the Toba language as spoken in the neighborhood of Sombrero Negro at the banks of the Pilcomayo river in the National Territory of Formosa ôn the latitude of the Capricorn; (2) to provide a basis for the teaching of Spanish to the (native) pupils of the author.

This reviewer is mainly interested in the author's first mentioned purpose: to acquaint those interested in the Toba language. A good introduction to the author's approach to the problem is given in the preface itself, which, short as it is (only 2 pages), provides the only clue to the principles which have guided the author in the compilation of the dictionary.

There is not much of an attempt to organize the material grammatically; as the author says: "La tarea de sacar orden de la confusión dejo a personas más sabias que yo, a los verdaderos filólogos." The only grammatical statement in the preface is to the effect that "las raíces de las palabras . . . parecen estar envueltas en prefijos i sufijos."

Verbs are entered under what the author supposes is the stem, and the persons of singular and plural are listed after the entry. In a similar way, nouns are first entered under what appears to be the stem, and after the entry follow possible prefixes and suffixes.

An idea of the grammatical conceptions of the author can also be had from the abbreviations used in the dictionary. Abbreviations are listed among others for 7 different types of adverbs: affirmative, quantitative, dubitative, local, modal, negative and temporal. Abbreviations also appear for the other conventional parts of speech, such as conjunctions, interjections, prepositions, pronouns, substantives; for the numbers, for masculine and feminine, etc. They are used exclusively to define Spanish entries in the Spanish-Toba part, and offer no help in recognizing the grammatical nature of Toba definitions.

Somewhat more is said in the preface about what the author calls "la ortografía de esta obra." He follows the tradition established in Bible translations of adapting the Spanish alphabet to the Toba language, which, he admits, "quizá sea indefensible del punto de vista científico," but is, as he puts it, more simple for the Indians to understand and prepares them for the local white culture which is slowly penetrating into those remote regions.

Accordingly, the letters k and w are not used, and replaced by c and u which are common in Spanish script. The word wakák *broken* is thus written uacác. The letter j is used to represent the sound h as in English. The letter g "muchas veces se cambia con la 'c'," but when two such letters occur together in one word, the first one is "casi siempre" pronounced as gui (= /gj/), as in/olégjaga/*hen*, in the author's spelling olégaga.

6 vowel symbols are listed, the 5 basic vowels, a, e, i, o, u and a vowel which the author writes ɨ, and which, he explains, "corresponde a la letra 'ë', del Padre Ducci y es casi el mismo sonido que se halla en la voz guaranítica que significa 'agua'." Since the reviewer knows neither Father Ducci's transcription, nor the Guaraní word for *water*, this letter ɨ has to remain just a letter, the phonetic value of which remains unclear pending further information.

In spite of his desire not to use the letter h in his Toba orthography, the author's aversion to the w seems to be even stronger,

for he transcribes the word/wúčagaik/ *lethargic* as uhúchagaic.

The apostrophe is used to indicate both "un sonido más fuerte á la letra 'c' que lo precede," i.e. aspiration of the /k/, and in "la 3a persona plural y en algunos verbos con complementos plurales," it seems to stand for a glottal stop. The author only states that the example pagagué'n is to be pronounced "como 'pagagué'n' o pagaguétn."

Accent marks are used throughout.

The Spanish-Toba part of the dictionary is about four times as large (pp. 29–168) than the Toba-Spanish part (pp. 175–216). This discrepancy is partly explained by the fact that much space is taken up in the Spanish-Toba part by what appear to be the inflected variants of the Toba definitions. It may also have been dictated by the author's avowed second purpose of acquainting the Indians with the tenets of 'Argentine civilization.'

The author states in the preface that he does not consider himself a linguist. His admission is borne out by the fact that his work leaves very much to be desired from a linguistic point of view. On the premise that his data are factually correct, and bearing in mind his rather inaccurate Toba orthography, Tebboth's Toba dictionary might possibly be used by linguists as preliminary material for further research.

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GRAMMAR AND VOCABULARY OF THE ESKIMO LANGUAGE AS SPOKEN BY THE KUSKOKWIM AND SOUTHWEST COAST ESKIMOS OF ALASKA. By Rev. John Hinz. Pp. xiii + 194. The Society for Propagating the Gospel of the Moravian Church, Bethelehem, Pa. [1944].

There are two Eskimo languages,[1] Central-Greenlandic and Alaskan. The latter is described by A. Shultze,[2] by F. Barnum,[3] and now by Hinz.

In the latest work, the "alphabet" is in part phonemic, without being aware of the fact. Thus, the author says that /a/ appears in positional variants as [a] and [ä]; also, /g/ appears as [k], [x], [g], and so on. But the orthography is not consistently employed. Thus beside /a/ for [ä], the dieresis is also used, so that we have phonetic [ä] which may be represented by /a/ in certain positions or by ä. Positions in which the latter occur are not given. In certain respects the "alphabet" is very awkward: /tl/, /sh/, /ts/, /ng/, /rr/, /gg/, and even /tsh/ represent single phonemes; the diacritic ' marks a short stressed vowel, and such a vowel has the effect of geminating a following consonant. Are geminate consonants phonemically distinct from single consonants? As described, they are marked twice in some instances, once in other instances.

The morphology attempts in part to show what devices Eskimo employs in place of English formal features and categories. Thus, the first morphological observation is to the effect that Eskimo has no article. In some usages Eskimo simply neglects this characteristic English particle, but in other usages Eskimo has devices which more or less approximate the article as used in English.

But much descriptive material of Eskimo itself is given briefly and with examples clearly arranged. Thus, eight classes of nouns are set up according to the shape of

[1] Not to mention the distantly related Aleutian languages.

[2] Grammar and vocabulary of the Eskimo Language (Alaska, Kuskoguim District), Béthlehem, Pennsylvania, 1894. I have this title from a reference but have not seen the work; it is not mentioned by Hinz.

[3] Grammatical Fundamentals of the Innuit-Language, as Spoken by the Eskimo of the Western Coast of Alaska, Boston and London, 1901. Hinz gives suffixes of possessed nouns, for example, which are identical to those given by Barnum, but he does not mention the earlier work.

the stem-final before certain suffixes (pp. 7–12).

Other examples cover pages of inflected nouns without comment as to shift in stress of the different noun classes, or other morphonemic problems (pp. 12–20). This is typical of much of the treatment which strays from the procedure of descriptive generalization followed by examples. Here we have a too limited generalization (a bare list of suffixes) followed by many examples which illustrate, unwittingly, problems which the author does not treat.

The treatment of the infinitive in chapter 9 touches on the relationship of noun and verb classes. However, categories familiar in European languages are in general postulated for Eskimo verbs. These are first treated as ideas (categories), with examples however. Then (pp. 55–71), examples are given more or less in tables of conjugation. The treatment ends with a recognition of form instead of beginning with form.

Students interested in either the Central-Greenlandic or the Alaskan Eskimo language will no doubt find Hinz's formal data useful. The most useful list of all is that of 187 affixes [= suffixes], with examples of occurrence in free forms, and with preceding symbols to show whether a given suffix may appear in sequence after a morpheme ending in vowel, consonant, or either vowel or consonant; or whether the morpheme final vowel is stressed before the suffix; or whether the suffix may follow a morpheme class called verb or noun, or indifferently either class (pp. 81–109). There is also an alphabetic index of affixes (pp. 151–6), and an Eskimo-English vocabulary (pp. 161–94).

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SIERRA POPOLUCA FOLKLORE AND BELIEFS. By George M. Foster. UCPAAE 42.177–250 (1945).

TEN WAYS IN WHICH THE STUDY OF SOUTH AMERICAN LANGUAGES ILLUMINATES LINGUISTIC KNOWLEDGE. By John P. Harrington. Acta Americana 2.104–8 (1944).

NOTE ON THE NAMES MOQUI AND HOPI. By John P. Harrington. AA 47.177–8 (1945).

NOTES ON THE ARAWAK INDIAN NAMES OF PLANTS IN SURINAM. By Gerold Stahel. Journal of the New York Botanical Garden 45.268–79 (1944).

RELATIVE CHRONOLOGY OF NORTH AMERICAN LINGUISTIC TYPES. By C. F. Voegelin. AA 47.232–4 (1945).

The specifically linguistic aspects of Foster's work with the Popoluca of Veracruz were discussed in IJAL 11.66–8 (1945). The present collection of stories is entirely in English, but a number of them were recorded in text and the author indicates that he may eventually publish them in the original form.

Harrington, who regards the Arawak and the Guaraní as varieties of the same language, here traces several English words farther south to their South American origins than previously believed possible. Especially noteworthy is English tobacco < Spanish tabaco, here compared with Guaraní taboca, as spoken just north of Buenos Aires (1867). The author then turns to a discussion of some linguistic features of the South American area. He points out that the Kechuan (here Quechua) vowel system does not include the feature of length; contrast his statement now with Trager's (IJAL 11.88 [1945]), where phonetically long or phonemically double i, a, u are recorded. He then goes on to state that no "heth" or "ayin" (presumably phonemes like the glottal spirants found in Arabic) has ever been recorded in South America. The fourth point contributes examples for the western Romance change from a bilabial fricative to a labialized velar (w > gw, Huarani, early spelling for Guaraní, etc.). An interesting note indicates the development of drum signalling, especially among the Jivaro. The seventh point describes the morpheme alternants occurring in Witoto compounds: these alternants are here called "abbreviated adbases" (e.g.,

hjko ~ -ko *dog*), and many South American stocks are claimed to have developed this process to "its full glory." In Metaco there are two classes of nouns; one of these must always be used with a possessive prefix (e.g., kinship terms, art manufacture nouns, etc.). In many languages of the central South American region, such as Cocama, in addition to the feature of gender, there is also a distinction between male and female speech (cf. Haas, in Lg. 20.142–9 [1944]). The tenth point emphasizes that Guaranian is the nearest approach in the Western Hemisphere to a world language, ranking with Spanish and Portuguese, and Harrington indicates that, in spite of this, Guaranian "is not a simple language in sounds and grammar."

Although the name Moqui has now been generally replaced by the name Hopi, it still appears in Spanish of the Southwest and Mexico. The change was initiated by Fewkes, who claimed that the name Moqui sounded like the word móki *dead, he died.* Harrington here gives the etymology of both names and discusses their use.

The Arawak of Surinam must distinguish hundreds or thousands of kinds of animals and plants. In their classification, the morphemes -balli, djamaro and ojoto *related to* recur, and serve to reduce the number of primary names; the morphemes wadili *big* (male) and hiaru *small* (female) also occur. Stahel shows how these are used in the Arawak botanical classificatory system and gives many native terms for various plants. He also refers to books by Pulle, and Record and Hess, where Arawak descriptive adjectives are quoted from (e.g., ibikoroborobana *narrow leaf*, adasidikoro *epiphytic in trees*, etc.). He points out that some plants are named according to their odor others after their popular use in medicine. Photographs, taken by the author, illustrate the text.

Voegelin, using a method similar to Sapir's "Time Perspective," attempts to convert linguistic diversity and distribution in North America into chronology, basing his facts on the Map of North American Indian Languages, AES-P 20 (1944).

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